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# Proportional representation reinvented

A study on the concept and applications of the Electoral Region model

Political Science Master's Thesis
May 2014

UNIVERSITY OF TAMPERE

School of Management

Master's Programme in Politics

ROINILA, ALEKSI: Proportional representation reinvented: A study on the concept and applications of the Electoral Region model

Master's Thesis, 66 pages, 28 pages of appendices

Politics / Political Science

May 2014

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**Abstract**

This paper studies three novel electoral systems and the concept of the *electoral region* on which they are all founded upon. The *electoral region* is a concept that preserves traditionally independent electoral districts but allows them to influence each other's voting results in order to generate greater proportionality in the overall election result.

The three new and as-yet untested electoral systems presented in this paper are applications of the electoral region concept that combine all electoral districts of a country into a single, nation-wide electoral region for calculating the seat distribution of the national parliament. This allows the electoral systems to distribute seats among parties as if there was only one nation-wide electoral district while still maintaining any number of electoral districts as vehicles of regional representation. If applied to federal elections, the electoral region concept would similarly permit individual states to elect their own representatives while ensuring that the overall seat distribution between parties at the federal level remains as perfectly proportional as the size of the representative body allows.

Using Finland's parliamentary elections of 2007 as a test case, this paper proves that the electoral region concept allows a degree of proportionality that is either on par with or greater than in any earlier system of proportional representation. As the three electoral systems presented demonstrate, this unmatched level of proportionality is achievable with a method that is far simpler than the multi-tiered systems that have thus far been required for achieving similar levels of proportionality in multi-district elections; Two of the three electoral systems introduced in this paper utilize only one electoral formula in their seat distribution from the national level down to the districts – the widely adopted d'Hondt formula – and in all three the voter is only expected to cast a single vote in favor of a single candidate and party.

**Keywords**

Elections, electoral system, electoral reform, electoral region, Finland, proportionality, proportional representation, d'Hondt, Sainte-Laguë, Hare-Niemayer, district magnitude

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# 1. Introduction

Parliamentary election reform has been a periodically debated topic in Finland over the past several decades, surfacing typically just before and after elections. Although the parties in parliament have from time to time agreed on its necessity, they have never managed to agree on the manner in which it should be executed. As a result, the electoral system has remained unchanged despite its recognized flaws and the many proposals that have been made to fix them.[1]

The electoral system that a country uses matters because it translates the voting result into a political outcome and ultimately decides the balance of power between political factions. As we will see later on, even relatively small changes in the electoral system can lead to a significantly different political outcome even when the voting result itself doesn't change. How voters can express their opinion, what practical choice they have in the voting booth and how their vote actually influences the outcome all depend to a large extent on the qualities of the electoral system. Electoral systems therefore have a hugely important role in the democratic process.[2]

Finland uses a system of proportional representation (PR) that aims to produce a political outcome where the seat shares of all parties in parliament would closely match with their share of the popular vote. To do this, the system utilizes the d'Hondt formula to elect representatives from 14 separate districts. The often recognized problem of the system is that it favors large[3] parties at the expense of smaller ones when it allocates parliamentary seats to parties based on their vote counts. This means that large parties get a disproportionate share of seats relative to their vote tally. In other words, they get more seats in parliament than their share of the votes would justify if the seat allocation was perfectly proportional.[4] This *disproportionality* is caused by the combination of several small electoral districts with the mathematical qualities of the d'Hondt formula, the details of which we will return to a bit later. For now it is sufficient to be aware of the effect, which is more pronounced the smaller[5] a district gets.

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[1] Ylisalo, Maunula & Helin 2012.
[2] Gallagher & Mitchell 2006, pp. 3–5.
[3] As measured by their electoral support, i.e. the most popular parties.
[4] "Perfect" proportionality is understood here and throughout the thesis as a situation where every party's seat share is precisely equal to its share of votes, i.e. where a party that gets 17.2 % of the vote also gets 17.2 % of the seats.
[5] Throughout this paper whenever I refer to the size of a district I mean only the number of representatives elected from that particular district. This is also known as *district magnitude (M)*. The size of the district does not therefore refer to geographical size, population or any other quality of the district besides the number of representatives it elects.

The practical consequence of this bias against small parties is that in districts with less than ten elected representatives it becomes exceptionally difficult for small parties to get candidates elected – even when an individual candidate of theirs would win the most votes of any candidate in the district. Conversely, the party that gets the most votes in a district is almost guaranteed to get more than its "fair share" of seats in that particular district, while others are left underrepresented relative to their vote shares.

Though such an outcome is not automatically a problem in need of a fix – some countries have indeed found it to be a desirable feature of an electoral system – it becomes problematic in light of the explicitly stated principle of proportional representation that is laid bare, in no uncertain terms, in both the election law and the Constitution of Finland: parties *should* have the same percentage of seats in parliament as they had of votes.[6]

Another problem in the current system is the hidden *threshold of exclusion* imposed by the d'Hondt formula, which varies wildly from one district to another depending on district size, causing regional inequality that can manifest itself in further disproportionality. In practice this means that in districts with only a few seats up for grabs, the share of votes required to win a seat is much higher than in larger districts. A party whose voter base is mainly in small districts will therefore find it much harder to get candidates elected than a party with an equal number of voters but in larger districts. This creates significant discrepancies in seat allocation between parties whose support is geographically focused and those who enjoy nation-wide support.[7]

Reform of the electoral system has entered the political discourse in Finland several times during the past decade alone. Concrete steps were taken after the 2003 and 2007 elections as the Ministry of Justice set up working groups to come up with proposals for the reform. These have produced a number of suggestions for improving proportionality and regional equality. These include proposals to combine smaller electoral districts into fewer larger ones, allocating a portion of the parliamentary seats through a compensatory seat allocation scheme, legislating fixed thresholds of exclusion, changing the mathematical formula used from d'Hondt to an alternative formula, and adopting entirely new methods of voting.[8] However, even though most parties have

[6] Election Act 714/1998, 6 § (Vaalilaki 2.10.1998/714, 6 §); The Constitution of Finland 731/1999, 25 § (Suomen perustuslaki 11.6.1999/731, 25 §). See also OMTH 2002:15, 1.
[7] See for instance Borg & Paloheimo 2009, pp. 243–276.
[8] See for instance Yle 2001a & 2002a; Ministry of Justice 2001; OMKM 2005:1.

for long agreed on the necessity of electoral reform and its goals in principle, they haven't been able to agree on the specifics of what exactly should be reformed and how.[9]

The purpose of this paper is to introduce an alternative solution to those already proposed and studied; a new electoral system that (1) produces unparalleled proportionality between parties on the national level, (2) grants no advantage or disadvantage to parties whose support is geographically focused, and (3) is simpler than other alternatives that could produce a similar overall degree of proportionality.

[9] See for instance Yle 2007a; Ylisalo, Maunula & Helin 2012.

## 2. Proportionality

The proportionality of an election result is a relatively simple and intuitive concept. It is the measure to which a party's seat share corresponds to its vote share. Measuring proportionality in practice is, however, slightly more complicated. The exact measure of proportionality can be given multiple definitions and it can be measured on multiple levels.[10]

Proportionality is perhaps most commonly used to refer to the allocation of seats of a representative body between parties. This is often the most relevant and meaningful level of analysis in analyzing the overall political outcome of an election between parties. In most electoral systems, however, that overall outcome is little more than a combination of multiple partial elections, such as when two different and complementary electoral systems are used in the same election or when elections are organized independently in multiple sub-national districts. In such cases the overall political outcome is not particularly revealing about how the electoral system actually functions. Where independent electoral districts[11] are used it is also necessary to study proportionality and seat allocation at the district level. Otherwise the factors that influence the overall result and its proportionality, or lack thereof, cannot be properly understood. Analyzing the results at the district level is especially relevant when, as is the case in Finland, the districts are intended as vehicles for regional representation.

When analyzing the proportionality of the overall political outcome – that is, the seat allocation between parties at the highest, usually national, level – it is important to note that no electoral system is going to consistently guarantee 'perfect' proportionality. Every electoral system is prone to produce some level of deviation from perfect proportionality, if for no other reason than the practical impossibility of allocating fractions of a single seat to different parties.[12] It is highly unlikely that the number of votes cast is evenly divisible by the number of seats. Further, the number of seats is bound to be limited by practical considerations and it will therefore be practically impossible to guarantee representation to every marginal group that had one or more candidates and received one or more votes. That said, some electoral systems can get much closer to that elusive 'perfect' proportionality than others.

[10] See for instance Maunula 2008, pp. 30–37.
[11] An "independent district" here meaning a district whose voting result does not influence calculations beyond that district's borders and whose seat allocation is not influenced by voting in other districts.
[12] See for instance Lijphart 1994.

### 2.1. Why does proportionality matter?

Alan Renwick has identified the democratic values that relate to electoral system design in a representative democracy: A fair distribution of seats and power, avoidance of anomalous results, representation of society, voter choice, accountability of governments and individual politicians, checks and balances, enabling effective political parties, and simplicity. At the same time the electoral system should enable efficient decision-making and effective governance.[13] While all of these traits relate to proportionality, some of them do so more directly than others.

When it comes to enabling effective political parties and the distribution of seats and power, there is a strong case to be made that perfect proportionality may not always be a desirable outcome from the point of view of a functioning democracy: A highly fragmented representative body does not easily lend itself to effective governance or political stability.[14] This is especially true under parliamentarian systems of government where the parliament is expected to elect a cabinet and a prime minister. It may therefore be favorable to have an electoral system that, although to some extent proportional, favors larger parties over smaller ones so that there will be fewer but larger parties in the parliament, and that the parliament as a whole remains less fragmented. In addition, as Renwick points out, a perfectly proportional seat distribution may not be in line with "fairness" or proportionality in the distribution of power: If no single party holds the majority of seats in parliament, small parties with just a few seats may end up wielding legislative power that far exceeds their number of seats (and votes).[15]

Therefore it is not surprising that even though all electoral systems necessarily impose some thresholds for gaining representation that limit the ability of smaller factions to have their candidates elected, some electoral systems are purposefully designed with that effect in mind. While some countries utilize an explicit and legally fixed threshold, in others the threshold is simply a determinant of the electoral system used. Some systems are however designed with features whose express purpose is to increase the threshold of votes required to win a seat.[16] They are, in effect, engineered to limit the number of parties in parliament, prioritizing effective governance over "fair" or proportional seat distribution.[17] This means that when studying the proportionality of electoral systems it is not enough to measure proportionality only between parties in parliament, but also *vis-à-vis* parties seeking representation but failing to have their candidates elected.

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[13] Renwick 2010, pp. 38–42.
[14] Maunula 2008, pp. 30–37. See also Gallagher & Mitchell 2006, pp. 590–591.
[15] Renwick 2010, pp. 39–40.
[16] See for instance Farrell 2001, pp. 12–18; Renwick 2010, p. 42.
[17] For discussion about the "effective number of parties" under different electoral systems, see for instance Taagepera 2007.

While some limits to proportionality are unavoidable and indeed even desirable, at the other end of the scale we have outcomes whose sheer *dis*proportionality makes them undesirable – even to the point where they are a direct affront to democratic principles:[18] Too great of a disparity between a party's electoral support and its share of the seats in the parliament can call the legitimacy of the entire system into question.

Many electoral systems of course boost the seat share of the winning party above and beyond its proportional share of the vote. In many cases this is entirely intentional, as the objective is to ensure the election has a clear victor who can proceed to form a strong, stable government without the fear of constant legislative gridlock with opposition parties. In extreme cases such a system can be wildly disproportional, as a party winning only the largest minority of votes can win the majority of seats – yet that would still be in line with the general principle that the party getting the most votes will also get the most seats. If disproportionality in the electoral system is too extreme, however, a party could win more seats than its competitors with fewer votes. While such an outcome may sound too absurd to occur in practice, the phenomenon is anything but unheard-of.

Such an "anomalous result" was perhaps most notoriously witnessed in the U.S. presidential election of 2000, where George W. Bush won a majority of Electoral College seats and was elected President despite having received fewer votes than his rival candidate Al Gore. Needless to say, such an outcome begs the question if the result truly represents the views of the voters. After all the whole purpose of democratic elections is to give the voters a choice over candidates running for office – if the outcome then conflicts with the choice made by the voters, a person would be right to ask what was the point in having the election in the first place.

Though it would seem an aberration that an electoral system would grant more seats to a party with fewer votes than its rivals, such a phenomenon occurred even in the 2007 parliamentary elections of Finland – although it didn't stir up quite the fuss of the U.S. presidential election aftermath seven years before it, even in Finland. In the election the Swedish People's Party won over a quarter more seats than the Christian Democrats despite the Christian Democrats receiving 6.5 percent more votes than the Swedish People's Party.[19] Although in practical terms the deviation from proportionality was in this case politically rather insignificant (unlike in the U.S. presidential elections of 2000), such outcomes are hardly representative of the expressed will of the voters or conducive to their ability to hold the government and individual parties democratically accountable. Whatever the benefits of some deviation from 'perfect' proportionality, there is thus a

[18] Renwick 2010, pp. 39–40.
[19] The Swedish People's Party won 9 seats over the 7 won by the Christian Democrats, i.e. 28.6% more.

point at which excess disproportionality causes legitimate problems and starts to run counter to democratic principles.[20] Upon designing new electoral systems we must guard against the possibility of such extreme deviations.

Most systems of proportional representation are of course compromises enabling some degree of proportionality while attempting to prevent too much fragmentation. Some systems are geared more towards producing a clear winner; a party that will gain a majority of the seats either on its own or at least by forming only a narrow coalition. Others are more likely to produce multiple medium-sized parties that have to rely on one another in order to form a broad coalition or in order to sustain a minority government.

Either way the electoral system that a country chooses is immensely important, as different electoral rules can translate the same voting result into vastly different political outcomes. Rein Taagepera has observed that "electoral systems can sometimes make or break a party – or even a country".[21] The same vote-tally can be translated into an absolute majority for a single party just as easily as it can establish a situation where no two parties combined can command a majority of seats. Taagepera cites multiple examples from Chile to Palestine where a different electoral system, not a different voting result, would have led to a vastly different course of history for that country and even for its region.[22] The lesson: electoral systems matter.

### 2.2. Beyond proportionality

Electoral systems based on proportional representation aren't the only game in town. There are nearly as many ways to organize elections for parliament as there are countries, and proportional representation isn't by any means the default approach even for countries designing their electoral systems from scratch.[23]

Some systems, like Britain's, are deliberately engineered so as to *not* produce a proportional seat distribution among parties in parliament; instead they act as vehicles to produce decisive majorities (and typically two-party duopolies[24]). Sometimes proportionality is not a feasible goal to begin with, as in Afghanistan where, in the beginning of the 21st century, political parties were either non-

[20] Renwick 2010, pp. 38–39.
[21] Taagepera 2007, p. 3.
[22] Taagepera 2007, pp. 1–2.
[23] For a listing of different electoral systems available and used in the world today, see for instance Taagepera 2007, pp. 23–46; and Taagepera & Shugart 1989, 20–36, 127–133. The broad range of alternatives and the multitude real-world examples thereof are also discussed in Lijphart 1994; Paloheimo 2008; and Renwick 2010.
[24] See for instance Taagepera & Shugart 1989, 77–91, 117–125.

existent or had long ago morphed from political factions to paramilitary organizations.[25] Therefore it was deliberately decided that the country's new electoral system would neither promote strong majorities nor proportionality; in the *single non-transferable vote* (SNTV) system it adopted, each voter casts a single vote for a single candidate in a multi-member constituency where a pre-determined number of candidates who received the most votes get elected into parliament. SNTV is perhaps the simplest electoral system imaginable, but it is also one that doesn't encourage the formation of parties as the system offers candidates no benefit from cooperation with one another.

In a way the electoral systems of Afghanistan and Britain are polar opposites in that the former minimizes the influence of parties in both elections and in legislation while the latter maximizes the power of a single ruling party by creating an effective two-party system.[26] The British electoral system is, however, only a special case of SNTV called the *first past the post* (FTPT) system, where single-member constituencies are used in place of the multi-member constituencies of Afghanistan; instead of electing multiple representatives from a single district, in FTPT only a single representative per district is elected into office. This gives voters a strong incentive not to 'waste' their votes on anyone but a handful of most likely winners, which, combined with the parallel incentive of discouraging competition among like-minded candidates, over time leads to the formation of an effective two-party system.[27]

The problem with both the SNTV and FTPT systems is that all votes cast in favor of candidates that do not personally get elected are essentially 'wasted' votes. This can be avoided with the adoption of a system of *party-list proportional representation*, such as the ones discussed in this paper, where votes cast to losing candidates will still benefit other candidates of the same party. Combined with multi-member constituencies this feature massively expands voter choice over both candidates and parties, as it permits voters to consider voting even less likely winners without the fear of tossing their vote away without having influenced the final election result one bit.

Party lists and proportional representation aren't the only way to avoid wasted votes, however. From the point of view of voter choice focusing on proportionality between parties may not even be

[25] Smith 2014.
[26] Yes, there are more than two parties in the British parliament, but in most single-member constituencies there are always, in the end, only two viable candidates worth considering unless the voter wants to take an almost certain risk of wasting his or her vote. Typically this district-level two-party system also results in an effective two-party system in parliament, where only one of two parties is able to form a government. See for instance Taagepera & Shugart 1989, pp. 21, 77–91.
[27] Taagepera & Shugart 1989, pp. 21, 77–91, 117–125.

desirable;[28] by doing so we make the tacit assumption that voter opinion is best expressed through parties. But it should not be taken for granted that voters even *want* to be represented by parties. Voters may well prefer to elect trusted individuals rather than impersonal party platforms.[29] To reflect that, an electoral system could emphasize the choice between individual candidates over the choice between parties. Apart from the SNTV and FTPT systems, one such alternative is the *single-transferable vote* (STV), which, as its name suggests, allows a vote to be "transferred" to another candidates should the voter's first choice not get elected.

In STV each voter is expected to craft a list of several candidates in order of preference. Should the voter's first choice not receive enough votes to get elected, the vote is transferred to whichever candidate the voter had ticked second or third or however far down on the ballot. This allows voters more freedom of choice as the candidates listed by a voter do not necessarily need all be from the same party, whereas in a party-list system the vote would automatically count for any and all other candidates of the same party. Consequently the STV system lessens the influence of parties; while party-list systems promote the role of parties over individual candidates, STV promotes individual candidates over parties.[30]

STV thus gives more freedom of choice to the voter than electoral systems based on party lists and proportionality between parties, while avoiding "wasted" votes just the same. This has led some to dub the STV as the "best" electoral system, as it permits the voter the most choice between individual candidates over any party lines and regardless of how many parties are contesting the elections.[31]

However, such a system would arguably be more arduous to the voter than casting a single ballot to a single party or candidate, as it would require voters to rank multiple candidates in an order of preference. Party-list systems offer a simpler method of voting, where the voter may cast his or her vote in favor of a party without a strong preference over, or even any knowledge of, its individual candidates. At the same time the use of party-lists avoid too many votes from going to waste without having any influence on who actually gets elected, unlike the equally simplistic SNTV

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[28] Indeed, even party-list PR systems can be seen as limiting voter choice by encouraging "strategic" voting, as voters may not wish to cast their vote in favor of all candidates of a particular party even if they like some of its candidates. On the other hand, as Rein Taagepera and Matthew Shugart have observed specifically in Finland, parties may not even register any candidates in districts where they are very unlikely to gain seats. Taagepera & Shugart 1989 pp. 24, 120.

[29] Renwick 2010, pp. 30–31, 40; Taagepera & Shugart 1989, p. 21.

[30] Taagepera and Shugart have argued that a closed-list PR system "gives more power […] to the parties' central leadership than any other democratic electoral system". By contrast they state that the STV system "gives maximum freedom to voters and minimum control to party leaders". Taagepera & Shugart 1989, pp. 24, 27.

[31] Taagepera & Shugart 1989, p. 27.

system. I would therefore argue that there is no such a thing as a universally “best” electoral system – all electoral systems are compromises between various desirable and less desirable traits. Both individualistic and party-centric electoral systems have their merits and both can serve voter interest well.

All of these four basic electoral systems – SNTV, FTPT, party-list PR and STV – come in a dizzying selection of variations as each country has sought to adapt them into their particular political environment with modifications, additions, combinations, restrictions and exceptions thereof. Party-list systems alone come in countless variations with differing mathematical formulas and other rules stacked one atop another. This paper focuses only on systems of party-list proportional representation and specifically on four variations thereof: one that has seen wide usage around the world and three new and untested ones. However, acknowledging the arguments for voter choice beyond a simple party choice, proportionality will not be the only focus of this thesis. Open-list systems such as that used by Finland already allow voters to express their preference over individual candidates on a party list. How that preference is taken into consideration in the various proposed and existing open-list systems is worth looking into. One of the aspects we will look at in this paper is therefore whether one of the studied systems grants the voter more influence over individual candidates than another. This is a question that has, in my view, been given way too little attention in comparative studies of electoral systems, even though Taagepera and Shugart reminded us of its importance over two decades ago.[32] The Ministry of Justice electoral region working group appointed to study electoral system alternatives for Finland, for instance, paid no attention to this question in its final report.[33] We will return to this topic in Chapter 9.

[32] Taagepera & Shugart 1989, pp. 213-241. See also Renwick 2010, p. 40.
[33] OMKM 2008:2.

## 3. Research methods

We will compare the existing electoral system used in Finland to three novel alternatives that have never been used or tested in real-world elections: one developed and proposed by the Ministry of Justice electoral region working group[34] and two variants of a method I developed previously as part of my Bachelor's Thesis at the University of Tampere. The Ministry of Justice proposal has been selected for the comparison because it is both the most recent proposal that has been officially considered for adoption in Finland and because it offers the greatest improvement to national-level proportionality of all known alternatives that do not require changes to existing electoral districts.

I will use the voting results of the Finnish parliamentary elections of 2007 to calculate and present the political outcomes produced by each system in order to measure the level of proportionality of the results. Following an analysis of the national level results we will turn to give the same treatment to district level results, and analyze their proportionality as well as how the different electoral systems influence the election of individual candidates. For the measurements of proportionality I will use different established indices of disproportionality that I will outline in detail in Chapter 3.2 as well as in Appendix C.

### 3.1. Electoral data

The basis for calculating comparable outcomes for the different electoral systems will be the voting data of the 2007 Finnish parliamentary elections, as collected and published by the national broadcasting company Yle.[35] I will use Yle as my data source of choice as its online election service provides the electoral data, such as vote counts for each individual candidate, in a more readable and easily editable format than the official Ministry of Justice website. By using the Yle data I acknowledge and accept the risk that there may be errors in the data presented, courtesy of Yle. For the purposes of this paper and its conclusions any such errors will not however be meaningful, as the data is used for comparative purposes only and all comparisons are based on the same data set. In any case a cursory comparison to the official Ministry of Justice data will show that any errors the Yle data might contain are minor enough to not alter the overall election outcome.

[34] In Finnish: Vaalialuetoimikunta. In Swedish: Valområdeskomission.
[35] Yle 2007b.

The main reason for using real-world data rather than imagined figures is to provide a more meaningful comparison that is relevant to the existing political parties. The significance of the proposed changes and the extent to which they would alter the current political balance is easier to demonstrate with a real-world example than with an artificial voting scenario. It also makes it easier for politicians and government officials alike to assess the implications of the proposed reforms.

That purpose would permit us to use the voting results of any election for which data is still available, but the 2007 voting result is a convenient choice for two reasons. First, it is still relatively recent at the time of this writing and thus relevant to highlighting how the proposed changes in the electoral system would affect the current parties in parliament. Second, the 2007 outcome very clearly demonstrated some of the faults of the current electoral system, making it a useful benchmark for testing whether any of the proposed alternatives would actually correct those faults. While the results of the 2011 parliamentary elections would be more recent and as such an arguably more interesting basis for comparison, the political outcome of that particular election did not make the faults of the system quite as easily observable as did the 2007 outcome.

Finally, the field of Finnish parties is almost as perfect a test-bed for comparing electoral systems as the most carefully crafted artificial simulation. Among the Finnish parties are several large parties that are always in tight competition over the crown of the largest party, but also multiple medium-sized and small parties that vie for seats in each election, competing not only against each other but also successfully challenging and sometimes even beating the larger parties in some districts. There are also marginal parties that are just on the verge of gaining representation and who might, with a slightly different electoral system, manage to gain the representation they have so far failed to gain in real life. Finally, there is one medium-sized party whose voter base is geographically so intensely focused that it doesn't even contest the election in all districts; it serves as the perfect test-case for how different electoral systems treat parties that may not enjoy broad national appeal but who are very popular in a limited geographical area – as might happen with ethnic, religious or linguistic minorities in any country.

The use of real-world electoral data is made possible by the very similar nature of the four systems that we are about to compare, as they all utilize the same voting mechanism and the same basic method of party-list proportional representation. This allows us to assume with a high degree of confidence that the change from one electoral system to another does not, for our comparative purposes, significantly alter voter behavior at the polls. Since each vote cast in each of the systems will still benefit the party it was cast in favor of even if the individual candidate on the ticket failed to get elected, the voters have no reason to radically reconsider their voting options – as they would have to if an STV or SNTV system was adopted instead. As we will discuss later, the only added voter incentive with any of the new models is that voters may become more encouraged to vote

smaller parties even in districts where they haven't been able to win representation before. But this change, while entirely realistic and to some extent even likely in practice, is not likely to be significant enough to render our comparison on overall system proportionality obsolete.

### 3.2. Measuring proportionality

In order to have a meaningful and accurate comparison of the proportionality of the election results of different electoral systems, it is necessary to have a numerical measure of proportionality. Fortunately several indices have been developed for just such a purpose.

Douglas Rae devised a formula that measures (dis)proportionality by calculating the average deviation between the parties' shares of votes and their shares of seats. The numerical value of Rae's index (*I*) thus tells us how many seats too many or too few each party gained, on average. The index is calculated with the formula:

$$I = \frac{\sum |v_i - s_i|}{i}$$, where $v_i$ is a party's vote share, $s_i$ its seat share and $i$ the number of parties.[36]

> **Example:** If the Rae index gives the value $I$=2, then on average the share of the seats won by each party is two percentage points higher or lower than their share of the votes.

Rae's index is however sensitive to the number of parties: When the election is contested by many parties with marginal vote shares, and if those parties are not specifically excluded from the count, the index tends to give misleading results.

An alternative formula that is less sensitive to the number of parties has been developed by John Loosemore and Victor Hanby. Their formula measures the aggregate overrepresentation of all those parties that gained a larger share of seats than they did of votes. The numerical value given by the Loosemore–Hanby index (*D*) is then understood as the percentage of seats that were 'misallocated' to 'wrong' parties above their proportional share. Thus it is perhaps intuitively an easier figure to grasp than the average deviation of the Rae index. The Loosemore–Hanby index is calculated with the formula:

[36] Lijphart 1994, pp. 58-62.

$D = \frac{\sum |v_i - s_i|}{2}$, where $v_i$ is a party's vote share and $s_i$ its share of seats. [37]

**Example:** If the Loosemore–Hanby index gives the value *D*=10, then ten percent of all seats are won by parties whose share of seats then exceeds their share of votes. Thus it can be interpreted as telling us that ten percent of all seats went to the 'wrong' parties.

Michael Gallagher took the Loosemore–Hanby index and adapted it to give a greater weight to large deviations and less weight to minor deviations. It does so by squaring the difference between each party's seat share and vote share, whereby any discrepancy becomes multiplied by its own value and thus accented above smaller discrepancies. This "least squares" index (*LSq*) gives a numerical value ranging from 0 to 100, with a higher number representing greater deviation from perfect proportionality. The number does not, however, have any real-world meaning and is a purely comparative figure. The advantage of using the Gallagher index is that it reveals the degree of politically meaningful disproportionality better than the other indices as it downplays the significance of many small, and often politically insignificant, deviations. The Gallagher index is calculated with the formula:

$LSq = \sqrt{\frac{\sum (v_i - s_i)^2}{2}}$, where $v_i$ is a party's vote share and $s_i$ its share of seats. [38]

**Example:** Suppose there are four parties contesting an election and each of them gets 25 percent of the total vote. However due to the electoral system used one of the parties, Party A, gets 55 percent of the seats, while Party B gets 25 percent and the two others only 10 percent each.

Now suppose that using a different electoral system the seat shares the parties would have instead been 42 %, 38 %, 15 % and 5 %, respectively. Using the Rae index we would in both cases measure *I*=15. This would imply that on average each party's share of the seats was 15 percentage points higher or lower than its share of the votes. This is not far off the mark for any party in the second scenario, where the discrepancy actually ranges from 10 to 20 percentage points for each party. It is hardly indicative of a single party winning a majority of seats with a quarter of the votes in the first scenario, however.

Similarly, the Loosemore–Hanby index would give both results the value of *D*=30, which would accurately depict that in both scenarios 30 % of all seats were allocated to parties that gained more seats than their proportional share. The value is the same for both outcomes even though the second scenario is far more evenly proportionate for three out of four parties.

The Gallagher index on the other hand would highlight the difference between these two results by magnifying the large discrepancies over smaller ones. Using Gallagher's formula we get *LSq*=23.45 for the first scenario and *LSq*=21.89 for the second scenario. Both election outcomes are of course so wildly disproportionate that the numerical difference here seems small, even inconsequential. Still, the

[37] Lijphart 1994, pp. 58-62.
[38] Lijphart 1994, pp. 58-62.

least squares index manages to create a measurable difference where the two other indices portray the outcomes as identical.

I will use all three indices outlined above to compare the proportionality of the electoral systems presented in this paper. Each of them gives a different way to interpret the level of (dis)proportionality that the systems create. As there is no ‘industry standard’ measurement for proportionality, calculating the values for all three indices also makes it easier to make comparisons to other electoral systems, whose proportionality may have been measured by other researchers with one index but not the others.

## 4. The d'Hondt method

The d'Hondt and Sainte-Laguë methods of proportional representation, as currently used in Finland and a number of other countries, stipulate that the number of votes a party receives – or alternatively its vote share as a percentage – is divided by a series of numbers, called divisors. The d'Hondt formula uses a string of 1, 2, 3, 4, and so on as its divisors, while the Sainte-Laguë formula uses 1, 3, 5, 7, and so on as its divisors.[39] The numbers resulting from the division, called *distribution figures*, are then compared to those of other parties. Seats are allocated to parties in the order of the distribution figures from the highest to the lowest.

> **Example:** Suppose that Party A has received 100 votes and Party B 60 votes. The d'Hondt distribution figures for Party A would be 100, 50, 33.3, 25, and so on. Party B's distribution figures would be 60, 30, 20, 15, and so on. Suppose there are four seats in the district (i.e. district magnitude is 4). The seats would be allocated to the four highest distribution figures (100, 60, 50 and 33.3), meaning that Party A would get three seats and Party B one seat.

As this is done separately in each district so that the seat distribution is always bound within the confines of a single district, I will refer to this traditional, simple application of d'Hondt as the *district-bound d'Hondt system* in order to differentiate it from the different variations of the same formula that I will introduce later.

The above is the mathematical representation of the d'Hondt method. However, since the d'Hondt method uses a string of 1, 2, 3, 4, and so on as its divisors, it is possible to interpret the formula in a different, more intuitive way. Think of dividing a party's total vote count not with an artificial string of numbers, but with the ranks that individual candidates hold on the party list: The candidate who is ranked first on the list, i.e. who in an open-list system received the most personal votes of all the party's candidates in the district, will get the party's total vote count as her distribution figure (total votes divided by 1). The candidate with the second-most votes will get half of the party's vote count as his distribution figure (divided by 2) and the candidate with the tenth-most votes will get a tenth of the party's vote count as hers (divided by 10). Now each candidate has a personal distribution figure assigned to him. Those individual distribution figures are then compared to those of all other candidates, and the candidates with the highest distribution figures get elected. This interpretation allows us to intuitively use the d'Hondt method in a new way that takes into account not only votes cast in a single district, but all votes from all districts, as we calculate the distribution figures for each candidate.

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[39] Sainte-Laguë is usually used in a modified form where the first divisor is 1.4 instead of 1 but where all the other divisors remain the same. This change makes it harder for parties to gain their first (or only) seat, and is a case of electoral engineering that aims to limit the number of parties in parliament.

## 5. Introducing the Roinila–d'Hondt method

As outlined above, in the usual application of d'Hondt (or Sainte-Laguë) a candidate in an electoral district gets a distribution figure that is used to measure whether that candidate is elected or not by comparing his or her distribution figure to that of other candidates. This distribution figure is counted by dividing the total number of votes the candidate's party list received in the candidate's district by the *divisor*, which in the d'Hondt system is effectively the position the candidate holds on the party list. In the Finnish case the candidate's rank on the party list depends on the number of individual votes he or she received. This is known as the open-list system, where voters get to determine the order in which candidates are elected from each party. In a closed-list system, by contrast, the order of candidates on a party list is pre-determined by the party nominating the candidates, and the voters have no say in the order in which candidates get elected.

The method I have proposed changes this formula by counting the distribution figures not from the votes a party received in a given candidate's own district, but from the votes the party received in all districts combined. That aggregate vote count is then divided by each candidate's rank on a combined list that includes all candidates of the same party from every district. The distribution figure arrived at in this way is then used to measure each candidate against all other candidates in their respective districts, just as in the original d'Hondt (or Sainte-Laguë) method.

As we shall see later, counting the distribution figures of a party from all its votes, rather than from just the votes it received in a single district, improves national-level proportionality between parties compared to the original d'Hondt method without adding undue complexity, all the while keeping electoral districts intact as vehicles of regional representation. Candidates would continue to be elected in principle as they have been before, from individual districts, but in a manner that takes into account the nation-wide popularity of their parties.

### 5.1. Theory into practice

This is the basic premise from which I started developing the method, first outlined in an essay I wrote to the University of Tampere in 2007, with the objective of achieving better proportionality between parties at the national level in a way that would require as few changes as possible to the existing electoral system then in use. Further study revealed that this basic concept can be executed in practice in one of two ways. Both are similar in that the d'Hondt formula is applied to the total number of votes each party list receives from all districts combined, generating a single list of distribution figures for each party. Those distribution figures are then assigned to individual candidates of each party with the highest-ranked candidates getting the largest distribution figures of their respective parties. This basic concept of counting distribution figures for district level

candidates from the votes cast in multiple districts is, to my knowledge, novel. For the lack of a better term, I will call it the *Roinila–d'Hondt method*. (Note that the same concept can also be applied just as well to the Sainte-Laguë or any other "highest averages" formula in place of the d'Hondt formula.)

Once the distribution figures have been assigned to party lists and their individual candidates, whether by the d'Hondt, Sainte-Laguë or some other formula, there are two slightly different ways of determining the order in which candidates get elected from the districts.

The first option is to proceed as we would in a traditional district-bound d'Hondt system, whereby each candidate's distribution figure is compared to that of all other candidates in the same district, only in this case – using the Roinila–d'Hondt method in place of the traditional d'Hondt method – the distribution figure has been derived from the national rather than the district vote. I will refer to this variant of the Roinila–d'Hondt method as the *district-by-district method*.

The second option is to compare the distribution figures right at the national level (or regional, federal, or any other supra-district level) to directly distribute seats, one by one, to the party lists and their individual candidates in the order of the distribution figures from the largest to the smallest. I will call this variant of the Roinila–d'Hondt method the *direct distribution method*.

These variations in the procedures used to distribute the seats lead to a slightly different, albeit broadly similar, election outcome. As we will see later, one of these methods will produce an overall outcome (and proportionality) identical to that of the Ministry of Justice proposal, while the other produces an even better national-level proportionality at the cost of some added complexity. First, however, I will go through both systems in detail.

### 5.2. District-by-district Roinila–d'Hondt

This variant arose from the idea that the most straight-forward way to apply the distribution figures is to do it in a similar fashion as the traditional, district-bound d'Hondt method does, whereby each candidate is assigned a distribution figure by the d'Hondt formula that is then compared to that of all other candidates in the same district. The candidates who 'score' the highest distribution figures from their district will be elected until all the representative slots from that district have been filled. The only difference to the traditional d'Hondt method is that the distribution figure of each candidate is counted on the national level rather than on the district level, meaning that the distribution figure is derived from the votes the candidate's party received from all districts combined rather than just from the votes the party received in the candidate's district alone.

To count the distribution figures for a given party's candidates we first need to rank the candidates on the party's candidate list from the first to the last. The order of candidates on a party list can be pre-determined by the party itself – called a "closed list", as used in Sweden – or determined by the number of personal votes each candidate on the list received – an "open list", as used in Finland.

We then assign the smallest d'Hondt divisor to the candidate with the highest number of personal votes (or whoever is ranked first on the party list if a closed-list system is used), the second divisor to the candidate with the second-most personal votes, and so on. As the d'Hondt divisors are 1, 2, 3, et cetera, we can quickly see that the divisor assigned to each candidate in this way is in effect the same as the candidate's rank on the party list. Thus we can do away with d'Hondt's mathematical formula altogether and say that *each candidate's distribution figure is the total votes received by his or her party divided by the candidate's rank on the party list.*

After this procedure we compare each candidate's distribution figure against those of other candidates from the same district in order to determine which of the candidates get elected. To do this, we look at the distribution figures of all candidates in a district and simply fill the representative slots of the district going from the highest distribution figure to the lowest until all the representative slots of the district have been filled. As I discovered in my previous study of the system, however, this method can in some instances lead to a rather undesirable paradox in which a party can lose seats in some districts by winning more votes elsewhere. Working around the paradox requires one additional step to the proceedings described here before we can declare the outcome final, but we will return to that later. For now the knowledge of that paradox gives us a reason to study an alternative method.

### 5.3. Direct-distribution Roinila–d'Hondt

Rather than making a district-by-district comparison between candidates, the distribution figures produced by the d'Hondt formula from each party's total vote counts can be compared right at the national level and the seats awarded directly to the highest distribution figures there. If there are 200 seats available, as in Finland, then the 200 highest distribution figures win the seats. Not only is this method more straight-forward than doing a district-by-district comparison of distribution figures, but it also allows us to determine the total number of seats each party wins before we have assigned a single representative slot to an individual candidate.

In this model, assigning the seats won by each party to individual candidates happens one by one, with the party that had the highest distribution figure of all parties – i.e. the party that received the most votes – going first: The party with the highest distribution figure assigns the first seat to the highest-ranked candidate on its party list, after which the second seat is assigned by whichever

party has the second highest distribution figure, the third seat by the party owning the third highest distribution figure, and so on until all the seats that were up for grabs have found an owner in an individual candidate.

Note that this process does not require us to know the total number of seats a party has won beforehand, and that we can complete the process of assigning the seats to candidates before we have calculated how many seats each party has won. In practice, then, there is only one phase of seat distribution even though it is also possible to conduct the party seat distribution and candidate assignment as separate and distinct phases.

> **Example:** Suppose that Party A receives 200 votes, Party B receives 60 votes, Party C receives 40 votes, and that there are 10 seats up for grabs. The parties get the following distribution figures according to the d'Hondt formula:
>
> - Party A: 200, 100, 66.7, 50, 40, 33.3, 28.6 …
> - Party B: 60, 30, 20, 15, 12, 10, 8.6 …
> - Party C: 40, 20, 13.3, 10, 8, 6.7, 5.7 …
>
> The ten seats are awarded to the ten highest distribution figures. We can immediately determine that Party A will win a total of six seats, Party B three and Party C just one.[40] We will, however, eventually arrive at the same outcome even if we simply start assigning the available ten seats directly to the candidates with the ten highest distribution figures:
>
> Party A with the highest distribution figure of 200 assigns the first seat to its highest-ranked candidate. The second and third seats also go to Party A's candidates with its distribution figures of 100 and 66.7 before Party B gets to assign its first seat with the distribution figure of 60. The fourth seat goes again to Party A with the distribution figure of 50, the fifth to Party C with 40, and so forth. Once all ten seats have been assigned to individual candidates, we will see that Party A won six seats, Party B three and Party C only one, just as we determined above. The first phase is thus superfluous and entirely optional.

At some point in the process the candidate next in line for a seat will probably come from a district where all the district's representative slots have already been filled. Assuming the district magnitudes are fixed and that candidates can only be elected from a district in which they were registered – as is the case in Finland – that candidate cannot then be elected despite being next in line on their party list to be assigned a seat. The party still needs to assign its remaining seat or seats to someone, however. The simple and perhaps obvious solution is to have the next-highest-ranking candidate on the party list to fill that spot instead – provided that she or he is from a district

[40] Party B and C both have an equal distribution figure competing for one remaining seat. Although such a situation would be extremely rare in a real-world scenario, such a situation can be easily resolved with a simple tie-breaker rule – for example by awarding the contested seat to the party that received the most votes. In this case the contested seat goes to Party B.

that still hasn't filled its quota of representatives. This is repeated until all the seats a party has won have been assigned to candidates from eligible districts. It is important to note that while this process may skip one or several candidates on a party's list, it does not skip their distribution figures; their distribution figures are in effect transferred to the candidate next in line to be elected from the party's list. [41]

Another rare but nevertheless realistic a scenario that we have to account for is one where two candidates from the same party receive precisely the same number of votes. In the 2007 elections in Finland this happened once. As both candidates cannot be given the same distribution figure, we must find a way to determine which of them should be listed first on their party's list and therefore be assigned a larger distribution figure.[42] If the candidates are from different districts we can check whether the higher distribution figure of the two contested ones is able to win a seat in either of their districts. If it is large enough to win a seat in just one of the districts but not in both, it is then assigned to whichever candidate is registered in that district. If it is sufficient to win a seat in both districts, we proceed to compare the next-highest distribution figure and see whether that is also large enough to win a seat in both districts. If yes, the relative rank of the two candidates does not matter, as both get elected anyway. If one candidate would get elected with the higher distribution figure but not the lower, and the other candidate would get elected with either distribution figure, then the higher distribution figure is assigned to the candidate that would not get elected with the lower one. Finally, if both candidates happen to come from the same district their position on the party list relative to each other can simply be determined by lottery, as it would not affect the overall election result or seat distribution between parties.

Although lengthier to explain, this method is in practice more straight-forward to execute than the district-by-district comparison described above. As we will see later, both methods produce broadly similar but nevertheless slightly different outcomes. There would also be other ways for achieving precisely the same outcome, but assigning the seats one-by-one is by far the simplest way to avoid situations where more candidates are elected from a district than its pre-determined district magnitude allows.

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[41] Another way to perceive the process would be that all seats are first distributed to parties according to the highest distribution figures and then assigned into the districts where the distribution figures originated from. If a distribution figure points to a district with no empty seats left, the seat it assigned to the next available district where the party holds its next-highest distribution figure. Once we know how many seats each party has in each district it is only a matter of filling those seats with the candidates who received the most votes of each party in each district. This is only an alternative way of describing the process and does not change the outcome of the seat distribution at any level.

[42] Note that this applies only to open-list systems where the candidates' order on the party list is not predetermined.

### 5.4. The Paradox: Winning more seats with less votes – and how to fix it

As I calculated simulated election results for the district-by-district Roinila–d'Hondt method in my Bachelor's Thesis, I observed a weird anomaly in the outcomes. One medium-sized party was left with a relatively significant[43] underrepresentation even as it was being eliminated from all other parties. Closer inspection revealed that the party had been very unlucky in how the votes it received were divided among the districts; the party had lost several seats across multiple districts with very small margins while those losing candidates competed for the same distribution figures on the party's list with margins of only some dozens of votes. The party had effectively lost two seats in parliament (that is, one percent of all seats) by a difference that was only 0.16 % of the total votes cast. The paradox this revealed was much more alarming than the fact that a party could so narrowly lose two seats, however.

Looking at the election results in each of the narrowly contested districts, I realized that the party in question would have gained two extra seats in parliament had two of the party's candidates, and thus the party as a whole, received *less* votes. This was made possible by the fact that a candidate who, in an open-list system, receives fewer votes will drop down on the party-list ranking and thus ends up 'giving' another candidate a higher distribution figure. That distribution figure, though too small for winning a seat in one particular district, may be just large enough for winning a seat in another narrowly contested district. This meant that a party winning 'too many' votes in the 'wrong' district ended up actually hurting the party in other districts. This is of course a very undesirable feature in an electoral system that strives towards a proportional election outcome.

Fortunately it turned out that this paradox is simple enough to fix without having to change the basic concept of the system. The seat distribution can be corrected after the preliminary results have been calculated and after parties suffering from underrepresentation (if any) have been identified. This is done by taking all of the parties that suffer underrepresentation, picking their highest distribution figure that did not get a candidate elected, and transferring that distribution figure to the candidate next in line on that party's list. If the distribution figure is not enough to win a seat in that candidate's district either, it is moved on to the next candidate, and so on, until it wins a seat in one of the districts where the party still had unelected candidates. The party that had in the preliminary results won a seat with a smaller distribution figure in that district will lose its seat. This process is repeated until none of the parties that won seats in the preliminary results are left underrepresented.

[43] A one-percentage-point deviation between the party's vote and seat shares, which under the regular d'Hondt system is commonplace for all but the largest parties.

Applied to the 2007 election results this fix resulted in the reallocation of eight seats out of a total of 199 seats in parliament[44] and resulted in the complete elimination of underrepresentation of the parties that passed the threshold of exclusion to win seats in parliament.[45] Any overrepresentation left in the seat shares of parties is therefore the result of some parties failing to pass the threshold of exclusion to win representation in parliament. This is a key characteristic of the electoral system: All parties elected to parliament receive *at least* as many seats as their share of all votes cast would indicate.

At this point it is worth pointing out that while this correction of underrepresentation is only mandatory in the district-by-district Roinila–d'Hondt method as a fix to the "less is more paradox", it can also be applied to its direct-distribution variant as well. In the latter's case the correction would result in the reallocation of only two seats, but would interestingly produce an identical overall seat distribution as the district-by-district method. The only difference between the systems would then be in *who* gets elected, as the systems assign distribution figures to individual candidates in a slightly different way. Thus it seems that the only difference in overall seat distribution between the systems, if any, arises from any uncorrected underrepresentation left in the direct distribution method. Applying the correction to the results produced by the direct distribution method is optional, however, as it does not require it to avoid any identified paradox.

Therefore I am inclined to judge the direct distribution method to be the superior system of the two proposed here, as it is both simpler and more versatile in that it doesn't have to deploy a *mandatory* correction of underrepresentation to its seat distribution. However, including the slightly different results of both systems in the simulation presented in Chapter 7.3 yields an interesting comparison as it reveals the impact that the *post-hoc* correction of underrepresentation would have on the overall seat distribution and candidate selection.

[44] Excluding the seat reserved for the single-member constituency of Åland.
[45] In some cases it may not be possible to eliminate underrepresentation entirely. However, with a 200 seat parliament the remaining underrepresentation will, in any situation, very likely be in the 0–0.4 % range depending on the voting result, which amounts to less than one seat.

## 6. Other electoral region models: The origins and the benefits of the concept

After the 2007 parliamentary elections there was a brief public debate about electoral reform that saw the publication of novel proposals about forming "electoral regions" that would encompass multiple districts. The idea was to substitute the party lists of each district at the regional level for party lists that would combine candidates from multiple districts, while maintaining the district-based nomination and election of candidates. The electoral systems I introduced in Chapter 5 are essentially adaptations of the electoral region concept, the main difference being that they utilize a single nation-wide electoral region instead of multiple 'regional electoral regions'.

Neither the systems I have proposed nor the electoral region system proposed by the Ministry of Justice in 2008, presented in Chapter 7, were the first to use the concept of a single, nation-wide, supra-district electoral region, however. Kimmo Kuusela was the first to propose the concept of an electoral region in 1994 for the Finnish elections to the European Parliament, although his system didn't include fixed district magnitudes.[46] Then, in 2003, Achilles Westling proposed what he termed the "spiral system", which was a novel application of the d'Hondt method where seats distributed at the national level using the d'Hondt formula were "spiralled" down into districts to individual candidates.[47]

Westling's spiral model, much like the model proposed by the Ministry of Justice working group a few years later, however required the allocation of seats to be done in two distinct phases using two different methods: first distributing the seats to party lists at the national level using the d'Hondt method (or equivalent) and then allocating the seats to individual districts and candidates with the spiral method (which the Ministry of Justice working group supplanted with the Hare–Niemayer method). By contrast, the electoral region model I have outlined above, in both its versions, uses only the d'Hondt method and its resultant distribution figures to allocate seats to parties and candidates by simple numerical comparisons of said distribution figures.

The concept of district-combining electoral regions has remained largely unknown outside of Finland, at least judging by English political science literature. As far as I'm aware, none of the electoral region models described here have been presented in English-language publications. Moreover, the Roinila–d'Hondt method I've presented here, in both its variations, appears entirely

[46] In Kuusela's proposal district magnitudes depended on the number of votes cast in each district for each seat-winning party, and so was closer to the model trialed in Kainuu provincial elections in 2004 (see Chapter 7.2) than either Westling's model or any of the three models studied in this paper. Ylisalo, Maunula & Helin 2012, pp. 258–259.
[47] Westling 2003.

unheard of. Previous electoral system literature does not, to the best of my understanding, know of a similar system where d'Hondt (or equivalent) distribution figures would be calculated from national-level votes but where they would determine the election of individual candidates at the district level without the use of a separate mathematical formula.[48]

The significance of the electoral region concept is perhaps more easily understood when we consider that when the traditional d'Hondt method is used in a multi-district election, such as in Finland with its 14 districts plus the single-member constituency of Åland, the election effectively isn't a *single* national election but rather *several* concurrent sub-national elections – in Finland's case 15 different elections – that in no way influence the results of one another. Using the Roinila–d'Hondt method or any other nation-wide electoral region model these separate elections are combined into one national election, whereby the votes cast in each and every district influence the election as a whole. The practical benefit for the individual voters is that they get to influence the national results even if their preferred party fails to win a single seat in their own district. This is especially significant for voters in small districts where it is harder for small parties to get their candidates elected, and where voters are therefore discouraged from voting any party that is not very likely to make the cut in that particular district – even if the same party is likely to get several candidates elected in other districts. Therefore, in addition to enabling greater overall proportionality, the use of the electoral region concept will increase voter choice over both individual candidates and parties.

[48] See for instance Taagepera & Shugart 1989; ECPDR 2000; Farrell 2001; Gallagher & Mitchell 2006; Maunula 2008.

## 7. The Ministry of Justice proposal

In June 2007 the Ministry of Justice appointed a working group to prepare proposals for the electoral reform that the second government of the then-Prime Minister Matti Vanhanen had taken on its agenda. The government plan-of-action prescribed a reform that would preserve the existing districting while achieving as high a degree of proportionality as possible. The starting point for the working group was the previously discussed electoral region concept, based on which the working group prepared ten alternative designs for a practical electoral system. Having narrowed down the alternatives the working group submitted its final report with a single final proposal on April 24th of the following year.[49]

### 7.1. Description of the system

The working group's final proposal shares the same basic premise with the Roinila–d'Hondt outlined in Chapter 5; in it, all electoral districts – barring the single-member constituency of Åland – are combined into a single, nation-wide electoral region where the votes from every district are combined into a single national tally of votes for each party. The d'Hondt formula is then used to count a set of distribution figures for each party, again just as in the Roinila–d'Hondt method. Those distribution figures are then used to determine the number of seats each party wins in parliament by assigning the seats to parties one-by-one, with the party with the highest distribution figure winning the first seat, the party with the second-highest distribution figure winning the second seat, and so on until all 199 seats have been assigned to a party. (Note that as discussed in Chapter 5.3, this is also a possible but not a mandatory step in the direct-distribution Roinila–d'Hondt method.)

That is where the similarities between the two concepts end, however. The working group's proposal goes on to assign the seats won by each party to its candidates not according the distribution figures that were already counted, but by using an entirely different mathematical formula that is wholly independent from the distribution figures and the highest averages method used to count them. The d'Hondt method and its distribution figures are used only for counting the number of seats each party wins in parliament.[50]

[49] OMKM 2008:2, pp. 3, 17–23; Email exchange between the author and a member of the working group, Prof. Heikki Paloheimo, in 2008 and 2012.
[50] OMKM 2008:2, pp. 16, 24, 33.

This is also where the working group's proposal starts to get rather complicated[51]. In order to assign the seats that each party won in parliament to individual candidates in the districts, the Ministry of Justice proposal deploys the so-called Hare–Niemayer method. The Hare–Niemayer is a "largest remainder" method that determines the exact number of seats that a party should receive in a district with decimal accuracy. If and when this *quota* of seats cannot be met in full, such as when a party would be entitled to four-and-a-half seats in a given district, the party is first assigned as many full seats in the district as its quota indicates – in our example four seats. Given that one seat naturally cannot be divided into fractions of a seat between different parties, our example party is left with a quota of one half of one seat. This *remainder* is then compared to the remainders of other parties and the parties with the largest remainders will be assigned any remaining seats in the district one-by-one in the order of the remainders from the largest to the smallest. Hence the "largest remainder" method.

Of course, since the election result was determined at the supra-district level in the electoral region and not in a single district, both the calculation of the seat quotas and the comparison of largest remainders have to also happen at the same supra-district level. This is what makes the Ministry of Justice proposal a novel electoral system concept in its own right, as the largest remainders methods – just as the highest averages methods of d'Hondt et al. – have traditionally been only ever applied in the confines of individual districts where the formulas used don't have to take into account anything that happens outside the district boundaries.

So far the basic concept remains rather simple, even if not quite as straight-forward as using just the d'Hondt formula. Counting and comparing the quotas is more difficult, however. The Hare–Niemayer formula would ordinarily determine a party's seat quota ($Q$) in an individual district by simply dividing the party's votes in the district ($P$) with the total number of votes cast in the district ($V$) and then multiplying the resulting quotient with the number of available seats in the district, i.e. the district magnitude ($M$):

$$Q = \frac{P \times M}{V}$$

The electoral region variant of Hare–Niemayer uses the same formula but divides the party's number of votes in a given district ($P$) not by all the votes cast in the district, but by the votes the party received in all districts of the electoral region combined ($P_{SUM}$). Then, rather than multiplying

[51] So criticized by its own members in the working group's final report. OMKM 2008:2, pp. 43, 140, 142, 146.

the result with the district magnitude, the resulting quotient is instead used as a multiplier for the number of seats the party was assigned in parliament (*S*) by the d'Hondt formula:[52]

$$Q = \frac{P \times S}{P_{SUM}}$$

Therefore, the formula effectively determines not the share of seats that a party should win in a particular district, as the Hare–Niemayer traditionally does, but rather the share of the party's seats to be assigned to a particular district. This calculation is naturally repeated for every district in which the party has registered candidates. It is worth noting that this version of the Hare–Niemayer formula, unlike the original, takes no account of how many seats there are actually available in the given district that the quota is calculated for, and the resulting quota of seats to be assigned to a given district may therefore, at least in theory, exceed even the district magnitude.

Once every party has a quota for every district in which it had registered candidates, we can proceed with actually assigning the seats to the parties and candidates. The quotas are, of course, for the most part decimal numbers, so we must first separate the integer part of each quota from its fractional *remainder* part. All parties are first assigned seats according to the integers; in our example case, the party with a quota of 4.5 seats in a given district is assigned four seats, as the integer of its quota is 4. The left-over fractions of this process, such as the .5 of our example party, are remainders which will be used later to assign seats that remain vacant after all of the integers have been used up.

Once every party has been assigned as many seats as its quota integers indicate, there very likely remain a number of seats yet unassigned to any party.[53] In a multi-district electoral region these vacant left-over seats are in all likelihood spread across multiple districts. To determine which party is to get which of these seats, both the remaining unassigned seats and the quota remainders of all parties are pooled into a ranked list. The remainders are ranked from the largest to the smallest, with each remainder listed next to the district that the remainder derived was from. The remaining unassigned seats are then assigned to parties one-by-one, starting with the district with the largest remainder and going from there until all of the seats in every district have been assigned to a party.

The largest remainder on the list points to a district. If that district has any unassigned seats left, one of them is then assigned to the party that owned the largest remainder – unless that party has

[52] OMKM 2008:2, p. 33.
[53] With Finland's 2007 voting result 47 out of 199 seats remained unassigned after the integer-allocation. OMKM 2008:2, pp. 117–118.

already been assigned as many seats as it is entitled to. If the party with the largest remainder is not eligible for the seat, the seat is given to whichever party owns the second-largest remainder *in the same district*. If, on the other hand, the district has no more seats available, the party that owned the district's largest remainder will instead get a seat from the district where its next-largest unused remainder points to. As a result of this shuffling it may happen that a party wins more seats from a single district than it has registered candidates in the district. Should that occur, the party will get its seat from the already-full district where its largest unused remainder pointed to, while the party that last had a seat assigned in that district will have its seat transferred to another district. [54]

Once all available seats have been allocated to parties, the only thing left to do is to assign those seats to individual candidates. The working group proposed that the seats allocated to a party in a given district are awarded to candidates who received the most personal votes in that district.[55] This makes it an open-list system just like the existing electoral system as well as the two models I have proposed, and thus gives us another interesting point of comparison later on when we turn our attention to the selection of individual candidates. At the national level the model produces an identical result to that of the direct-distribution Roinila–d'Hondt method, only differing from it in which particular candidates get elected and from which districts; the seat distribution between parties and thus the overall proportionality is the same in both systems thanks to the similar application of the d'Hondt formula at the national level.

### 7.2. Criticism towards the system

The Ministry of Justice working group argued that its proposed Hare–Niemayer method is the simplest method it could identify for producing greater political proportionality than the traditional d'Hondt system that would still maintain the existing electoral districts as vehicles for geographically proportional representation. It argued that the Hare–Niemayer is, while somewhat complicated, ultimately "sufficiently simple" so as to not risk alienating voters by making the electoral calculations too difficult to understand for the average voter.[56]

This, however, resulted in the single most significant discord within the working group: Representatives from the Swedish People's Party and the Social Democratic Party left their dissenting opinions in the working group's final report, arguing that the electoral region model and its Hare–Niemayer method is too complicated and would discourage voters who would find it

[54] OMKM 2008:2, pp. 27, 33–34, 112–121.
[55] OMKM 2008:2, p. 34.
[56] OMKM 2008:2, p. 44.

difficult to understand how their vote is translated into a particular candidate being elected. This criticism was warranted by the working group's own remarks, where it both repeatedly argued against a number of electoral systems due to their "convoluted" or "clarity-obscuring" nature and listed simplicity as a key objective identified by a previous working group that studied the possibility of electoral reform in Finland.[57]

A very similar system to that proposed by the Ministry of Justice working group has already been trialed in the Kainuu provincial elections in Finland. As in the model proposed by the working group, the Kainuu model also combined a multi-district electoral region with a two-phased seat distribution method, done in the first phase with the d'Hondt formula and in the second phase with the Hare–Niemayer method. In Kainuu's case the provincial electoral region consisted of multiple municipalities, each of which acted as individual districts. However, unlike in the model's national application proposed by the working group, in the Kainuu elections voters could cast their vote for any candidate in any one of the electoral region's districts regardless of where they themselves were registered in as voters. In addition, the district magnitude was not pre-set, but the number of representatives elected from each district was instead determined after-the-fact by the number of voters who went in to cast their ballots in each district.[58]

The Ministry of Justice had set another working group, dubbed the "Democracy 2007 committee", to study this real-life experiment and the lessons it gave that might be deemed applicable for national elections. In its final report the working group made the following remarks:

> "The 2004 Kainuu provincial elections showed that the electoral system is, in its details, very complicated and difficult in its application, and may lead to situations where the will of the voters is poorly realized."[59]
>
> "The committee considers it important that the electoral system used in Finland's parliamentary elections […] is from the voters perspective simple, so that the voter understands the impact of his or her vote"[60]

[57] OMKM 2008:2, p. 35.
[58] OMKM 2005:1, pp. 30–31.
[59] OMKM 2005:1, pp. 30–31. Original quotation in Finnish: "Vuoden 2004 Kainuun maakuntavaalit osoittivat, että vaalijärjestelmä on yksityiskohdiltaan varsin monimutkainen ja hankalasti sovellettava ja saattaa johtaa tilanteisiin, joissa äänestäjien tahto toteutuu huonosti." Translation mine.
[60] OMKM 2008:2, p. 34. Original quotation in Finnish: "Toimikunta pitää tärkeänä sitä, että Suomen eduskuntavaalijärjestelmä … on äänestäjän näkökulmasta selkeä, jotta äänestäjä ymmärtää, miten hänen antamansa ääni vaikuttaa". Translation mine.

The working group considered the simplicity or complexity of the electoral system as a factor that would affect voter turnout and highlighted its importance for the legitimacy of the elections. According to their conclusions the complexity of the electoral system may interfere with the voters' ability to perceive which candidate and which party will ultimately benefit from their vote.[61] After the 2004 election experiment both the electoral region model and the Hare–Niemayer method were abandoned in Kainuu provincial elections, with the following 2008 election organized again with the traditional, district-bound d'Hondt method.[62]

Although the Kainuu model is not entirely identical with the model proposed for national elections by the Ministry of Justice working group, the criticism towards the Kainuu model is equally valid towards the newer proposal. After all, the key component that was seen as a cause of excess complexity – the two-phased seat distribution with both the d'Hondt and the Hare–Niemayer methods – is at the core of the electoral system proposed by the Ministry of Justice working group. Just as the complexity of the system doomed the Kainuu reforms, it ultimately proved to be the downfall of the entire national electoral reform project as well: The complexity of the proposed system became one of the biggest arguments against its adoption in parliament.[63] While the new system was originally supposed to be in place in the parliamentary elections of 2015, the constitutional changes needed for its adoption now make it dubious if it, or any other system, can be adopted in time even for the following 2019 elections. Meanwhile all of the problems identified in the traditional d'Hondt method – and agreed upon as such by all parties in parliament since at least the 1990s – remain unresolved.

Fortunately, as we shall see in the simulated results presented in Chapter 8, the complex methods proposed by the working group are not necessary for producing the exact same political result and national-level proportionality.

### 7.3. A note on electoral thresholds

The Ministry of Justice electoral reform proposal included the introduction of both national and district level legal thresholds of exclusion. According to the proposed limits, to gain representation a party would have to receive either over 3.5 % of all votes cast or over 12 % of the votes cast in a single district. Furthermore, a party that does not receive more than 3.5 % of the national vote will only get its candidates elected in districts where it received more than 12 % of the vote.[64] The then-

[61] OMKM 2008:2, pp. 26–27.
[62] Ministry of Justice 2008b.
[63] Aamulehti 2009.
[64] OMKM 2008:2, p. 42.

Minister of Justice, Tuija Brax, argued that the legal thresholds would ”prevent the fragmentation of the parliament”.[65] The working group’s final report also stated that the legal thresholds “may indirectly promote better proportionality” as voters would refrain from voting marginal parties whose popularity wasn’t sufficient for passing the threshold.[66] It should be noted that the proposed thresholds were significantly lower than the hidden thresholds of most of the smaller districts in the existing electoral system using the district-bound d’Hondt method.[67]

To make comparing the electoral systems easier, I have applied the proposed legal thresholds to the simulated results of all three proposed electoral systems.[68]

[65] Ministry of Justice 2008a. Translation mine.
[66] OMKM 2008:2, p. 15. Translation mine.
[67] OMKM 2005:1, p. 28.
[68] It should be noted that, at least in the case of Finland, the inclusion of legal thresholds that exclude parties that would only gain a few seats from parliament may make it more likely that the electoral region concept is adopted at all. As Taagepera has argued, electoral reform faces least resistance “when the existing number and size of parties are not altered” (Taagepera 2007, p. 177). In Finland’s case the 3.5 % threshold would have prevented two new parties from entering the parliament should the electoral region been in use in the 2007 elections (see Chapter 8).

# 8. Results

We shall now look at the real and simulated election outcomes produced by the different electoral systems, first at the national level and then, in the next chapter, at the district level. We will start by comparing the overall seat distribution of each system, both in absolute numbers and proportional shares. After that we will analyse the results with the mathematical indices of disproportionality presented in Chapter 3.

## 8.1. Election outcomes

Table 1 lists the total number of seats won by each party under each of the electoral systems under our review. The calculations include the 3.5 % legal threshold of exclusion proposed by the Ministry of Justice working group.

**Table 1.** The real and simulated election results of the different electoral systems based on the voting results of Finland's 2007 parliamentary elections. Change in seat distribution as compared to the traditional d'Hondt method is shown in parentheses in grey while seats lost due to the legal threshold of exclusion are shown in red.

Parties are denoted with their Finnish abbreviations, the explanations of which are presented in Appendix D.

| Party | d'Hondt | District-by-district Roinila–d'Hondt | Direct-distribution Roinila–d'Hondt | Ministry of Justice proposal |
|---|---|---|---|---|
| KESK | 51 | 46 (-5) | 47 (-4) | 47 (-4) |
| KOK | 50 | 45 (-5) | 46 (-4) | 46 (-4) |
| SDP | 45 | 44 (-1) | 44 (-1) | 44 (-1) |
| VAS | 17 | 18 (+1) | 18 (+1) | 18 (+1) |
| VIHR | 15 | 17 (+2) | 17 (+2) | 17 (+2) |
| KD | 7 | 10 (+3) | 10 (+3) | 10 (+3) |
| RKP | 9 | 10 (+1) | 9 | 9 |
| PS | 5 | 9 (+4) | 8 (+3) | 8 (+3) |
| SKP | 0 | 0 (-1) | 0 (-1) | 0 (-1) |
| SSP | 0 | 0 (-1) | 0 (-1) | 0 (-1) |

Looking at the national level results, we can see that the proposed electoral region models differ significantly from the actual 2007 election outcome that was determined with the traditional d'Hondt method with its independent districts. In all electoral region models the two largest parties lose the most seats relative to the historical 2007 outcome, while the biggest winners are the two smallest parties. This is a direct result of the better overall proportionality that they produce compared to the traditional district-bound d'Hondt, where larger parties stand at a considerable advantage especially in small districts.

We can also observe that both the model proposed by the Ministry of Justice working group and the direct distribution model I have proposed produce an identical overall outcome, as both use the same d'Hondt formula to calculate the national-level results. All three electoral region systems award more seats to small and medium-sized parties than the traditional d'Hondt system currently in use. Depending on the electoral region model used, the three largest parties lose from nine to eleven seats combined, which amounts to a significant shift in legislative power in a 200-member parliament; Where the two largest parties could together hold an absolute majority of seats in parliament after the 2007 elections – thus theoretically enabling a two-party majority government – no two parties could have achieved the same had any of the electoral region systems been used instead. The higher number of seats gained by the smaller parties under the electoral region models hints at a higher overall proportionality under those systems.

Interestingly – and significantly – the Swedish People's Party of Finland (RKP[69]), which contested the election in only four out of 14 districts, doesn't suffer from its geographically concentrated voter base under the electoral region models. This was one of the major worries of the party's representatives in the electoral region working group. What we see from the simulated results is actually quite the contrary: Using the district-by-district Roinila–d'Hondt method would even increase the party's seat count. Using an electoral region thus doesn't appear to threaten parties with geographically focused support, which would be a major concern for parties representing vulnerable minority groups, such as ethnic or religious – or, in this case, linguistic – minorities.

Another noteworthy observation to be made here is that were an artificially imposed threshold not used, all three electoral region models would have allowed two new parties to gain representation in parliament. The Senior Citizens' Party (SSP[70]) and the Communist Party (SKP[71]) would have each won one seat in parliament. Both received enough votes to get over the 0.5 % hidden threshold of the electoral region models, but neither would have survived the cut against the proposed, legally imposed 3.5 % threshold. Neither did either party reach the proposed 12 % threshold in any one district that would have made them eligible for a seat despite falling under the 3.5 % national threshold.[72] Therefore they are excluded from parliament in the final results.

[69] In Finnish: Suomen ruotsalainen kansanpuolue.
[70] In Finnish: Suomen Senioripuolue.
[71] In Finnish: Suomen Kommunistinen Puolue.
[72] As a side note, shutting these two parties out of parliament under any of the electoral region models would only require a legal threshold of exclusion of 1 %. That alone would limit representation to parties that can win at least two seats in parliament, whereas a 2 % threshold would limit it to parties able to win at least four seats in parliament.

It is important to note at this point, however, that the overall proportionality of the election outcomes under the electoral region models would be higher if no legal thresholds were used. But since we have applied the same legal thresholds for all electoral region models, they have no impact on the comparison between the systems.

### 8.2. Proportionality of the outcomes

When we turn our attention to proportional seat shares rather than the number of seats of each party, we can start properly assessing the proportionality of the results. When we put the proportional vote share and seat share of each party side by side, as in Table 2, we can see at a glance how proportional (or disproportional) each party's share of the seats really is under each electoral system.

**Table 2.** Party vote shares in the 2007 elections and seat shares of each party under the different electoral systems. The percentages have been calculated from 199 seats, which exclude the single-member constituency of Åland.

Parties are denoted with their Finnish abbreviations, the explanations of which are presented in Appendix D.

| | | **d'Hondt** | **District-by-district Roinila–d'Hondt** | **Direct-distribution Roinila–d'Hondt*** |
|---|---|---|---|---|
| **Party** | votes, % | seats, % | seats, % | seats, % |
| KESK | 23,1 | 25,6 | 23,1 | 23,6 |
| KOK | 22,3 | 25,1 | 22,6 | 23,1 |
| SDP | 21,4 | 22,6 | 22,1 | 22,1 |
| VAS | 8,8 | 8,5 | 9,0 | 9,0 |
| VIHR | 8,5 | 7,5 | 8,5 | 8,5 |
| KD | 4,9 | 3,5 | 5,0 | 5,0 |
| RKP | 4,6 | 4,5 | 5,0 | 4,5 |
| PS | 4,1 | 2,5 | 4,5 | 4,0 |

***** The Ministry of Justice proposal is not listed separately, since its result is identical to the direct-distribution Roinila–d'Hondt model.

This table gives us the first useful numerical measurement of proportionality. Comparing each party list's seat share to its share of the votes we can calculate the *largest deviation* that any one party suffers under each of the electoral systems. Though a crude measurement, it gives a concrete point of comparison between the systems. In the d'Hondt system the largest deviation is 2.8 percentage points, which is seen in the overrepresentation gained by the National Coalition (KOK[73]) party. By comparison, in the district-by-district Roinila–d'Hondt system the largest deviation is only 0.4 percentage points. In the electoral region model proposed by the Ministry of

[73] In Finnish: Kansallinen Kokoomus.

Justice and in the direct distribution model I have proposed that deviation is slightly higher at 0.8 percentage points – but still very low compared to the traditional district-bound d'Hondt.

Perhaps more importantly, however, this table tells us that all of the electoral region systems manage to eliminate or significantly reduce underrepresentation for parties *in parliament*. Under the d'Hondt system there are five parties with parliamentary representation that suffer from underrepresentation, the largest single negative deviation being a rather significant 1.6 percentage points (1.6 % of seats equalling three seats). The district-by-district Roinila–d'Hondt system has eliminated underrepresentation completely, whereas the direct distribution method and the Ministry of Justice proposal both have only two parties that have a smaller portion of seats than votes. The remaining underrepresentation in their results (0.2 percentage points for two parties combined) doesn't, however, translate to even one full seat, which makes the remaining underrepresentation practically negligible.

Finally, as we can see from the table, none of the electoral systems produces a perfect proportionality between vote and seat shares. This is to be expected, as any electoral system necessarily has some level of built-in disproportionality, as was discussed in Chapter 2. In the electoral region models that built-in disproportionality is compounded by the use of legal thresholds that led to the exclusion of two parties from parliament and the subsequent transfer of two seats to parties that wouldn't have otherwise been entitled to those seats. On the other hand the use of electoral alliances in the 2007 election, the effect of which has not been cancelled in this study, artificially boosts the proportionality of the traditional, district-bound d'Hondt system.[74] Regardless, we can observe that the deviation from perfect proportionality between seat and vote shares of each party is markedly smaller under the electoral region models than under the district-bound d'Hondt system. But to get a more exact measurement for just how much smaller that deviation actually is, we will need to turn to more mathematical tools.

### 8.3. Mathematical analysis of the proportionality of the outcomes

In Table 3 we find the indices of disproportionality introduced in Chapter 3 calculated for each system. All indices point to a clear difference in the overall proportionality of the electoral systems in favor of the electoral region models.

[74] Raunio 2006.

**Table 3.** Indices of disproportionality for the different electoral systems calculated from the seat shares of parties in parliament. Smaller values indicate less disproportionate results.

The formulas used to calculate the indices were introduced in Chapter 3.

| System | LD | I | D | LSq |
|---|---|---|---|---|
| d'Hondt | 2,8 | 1,35 | 5,42 | 3,26 |
| District-by-district Roinila–d'Hondt | 0,7 | 0,29 | 1,15 | 0,72 |
| Direct-distribution Roinila–d'Hondt* | 0,8 | 0,33 | 1,31 | 0,87 |

***** The Ministry of Justice proposal is not listed separately, since its result is identical to the direct-distribution Roinila–d'Hondt model.

While the largest deviation (*LD*) gives us a clear-cut comparison of the maximum disproportionality affecting individual parties under each system as was discussed above, Rae's index (*I*) gives us the *average* deviation from perfect proportionality. For the district-bound d'Hondt system used in the actual election that deviation is approximately 1.4 percentage points per party, whereas for the electoral region models the deviation is less than 0.4 percentage points for each party. Translated into seats, that means an error of more than two seats per party in the 2007 outcome. By contrast, under the electoral region models the final seat count for each party deviates from perfectly proportional seat distribution only by approximately one half of one seat.

The Loosemore–Hanby index (*D*), on the other hand, reveals the results' aggregate deviation from perfect proportionality. In plain English that means the total portion of seats that was not distributed proportionally according to the vote shares of the parties. In the 2007 election more than 5 % of the seats, meaning ten full seats, went to the 'wrong' party. The same error in the electoral region models is just two full seats – which just so happens to be the number of seats taken away from the two parties excluded by the legal threshold. Thus we can observe that without the artificially imposed legal threshold not one full seat would be awarded to the 'wrong' party under the electoral region models. This is a rather staggering outcome, as the removal of the 'misallocation' of ten seats from a legislature of 200 seats has the potential to have profound effects on legislative dynamics and the balance of power between parties in parliament.

Considering that it is impractical to divide portions of a single seat to different parties or to different representatives, we can conclude that *this complete removal of seat misallocation would amount to as perfectly proportional seat distribution as is practically feasible by any electoral system.*[75]

It is worth pointing out at this point that although the district-by-district Roinila–d'Hondt method produces the best overall proportionality out of the systems compared here – albeit with a marginal real-world difference in seats between it and the other electoral region models and only because of the misallocation caused by the artificial thresholds prevent all of the systems from reaching the same 'perfect' proportionality – it achieves that higher degree of proportionality due to the way we removed underrepresentation from its initial results by shuffling a few seats for those parties that were allocated less seats than their vote share would have directly entitled them to. As was discussed in Chapter 5.4, that same fix is just as easily applicable to the direct-distribution variant of the same method. Therefore the indices here reveal the full extent of how that fix affects the outcome's proportionality.

These calculations however only took into consideration the parties in parliament. When measuring the overall proportionality of an electoral system we must also take into consideration those parties that are ultimately excluded from parliament. Table 4 presents the indices of disproportionality calculated with all parties that contested the elections, regardless of whether they managed to win seats in parliament or not.

**Table 4.** Indices of disproportionality for the different electoral systems calculated from the seat shares of all parties contesting the elections. Smaller values indicate less disproportionate results.

The formulas used to calculate the indices were introduced in Chapter 3.

| System | LD | I | D | LSq |
|---|---|---|---|---|
| d'Hondt | 2,8 | 0,71 | 6,42 | 3,33 |
| District-by-district Roinila–d'Hondt | 0,7 | 0,24 | 2,15 | 1,00 |
| Direct-distribution Roinila–d'Hondt* | 0,8 | 0,26 | 2,31 | 1,11 |

***** The Ministry of Justice proposal is not listed separately, since its result is identical to the direct-distribution Roinila–d'Hondt model.

As we can see when comparing the tables, Rae's index of average deviation (*I*) shrinks when more parties are brought into the equation, as could be expected. Here we can see why it was sensible

[75] Without the legal thresholds all of the electoral region models would have produced an identical result.

at first to limit our study to just parties in parliament: The index no longer gives us a meaningful measurement about the expected level of under- or overrepresentation of a party that is more than marginally popular.

The Loosemore–Hanby index (*D*) however continues to represent the number of seats that have been 'misplaced' to the 'wrong' parties against perfect proportionality. As the Loosemore–Hanby index measures the aggregate deviation it naturally swells when the number of parties without representatives grows along with their combined underrepresentation. The portion of 'misallocated' seats under the electoral region systems is now over 2 % of the total of 199 seats, which means four full seats given to 'wrong' parties. We can quickly see that, were it not for the legal threshold, this number would actually shrink to just two seats and the result would be just as proportional as when only the parties in parliament were included in the calculation. By contrast, even without a legal threshold the aggregate deviation for the traditional d'Hondt system swells to over 6 %, which is 12 full seats out of the total of 199, when all parties contesting the elections are considered. The difference is big enough to have a real impact on government formation and legislation.

The Gallagher index (*LSq*), weighing large deviations over smaller ones, on the other hand remains almost unchanged for the district-bound d'Hondt, as could have been expected. The much higher values it gives for all of the electoral region models as compared to figures in Table 3 results again from the legal threshold of exclusion – the disqualified seat shares of the two artificially excluded parties are, after all, as big as the largest deviations in the original calculations. Without the impact of the thresholds the Gallagher index would remain nearly unchanged.

### 8.4. Conclusions on proportionality

All things considered, the difference in proportionality as measured for just the parties in parliament on one hand and for all parties contesting the elections on the other is not that great. Removing the artificial threshold of exclusion from the electoral region models would shrink the difference to almost non-existent due to the very marginal vote shares of the parties that would still fail to gain representation (the hidden threshold of exclusion enforced by the size of the parliament being less than 0.5 %).

When the legal thresholds are in place, as they are in the calculations above, the measured difference in proportionality between the different electoral region models is even smaller when all parties are included in the calculations than when proportionality was measured with just the parties in parliament. Once again it bears reminding that the only reason there is a difference between the electoral region models is that we only applied the correction of underrepresentation (and of the "less is more" paradox discussed in Chapter 5.4) for one of the three models rather

than all of them. That difference naturally goes away if we apply it not just to the district-by-district Roinila–d'Hondt system but to the others as well, which is entirely possible even if not in their case mandatory.

All of the index values we have measured for the electoral region models here are very small indeed when compared against electoral systems used across the world. Using Gallagher's least squares index (*LSq*), which is often used in international comparisons of electoral systems, all of the electoral regions models presented here would rank at the very top of a global list of most proportional electoral systems. In a comparison of the electoral systems of 23 countries in 1991 and in another comparison of the electoral systems of 21 countries in 2006, Michael Gallagher found the *LSq* averages to be 5.6 and 6.3, respectively – a far cry from the circa 0.5 that the electoral region models would score without artificial thresholds. In Gallagher's comparison only one electoral system reached a lower *LSq* score: South-Africa, which uses two different electoral systems to form a 400-member national parliament.[76] Arend Lijphart in turn published a comparison of 70 electoral systems in 27 countries in 1994. In that study there was also only a single electoral system that beat the 0.5 *LSq* value of the electoral region models – in fact, even with proportionality-hindering legal thresholds proposed by the Ministry of Justice in place, only two electoral systems in Lijphart's comparison scored better than the electoral region models presented here.[77]

This is not a trivial result. It is especially significant for the two variants of the Roinila–d'Hondt method which use only one electoral formula to determine the outcome both at the regional *and* district level. Reaching such a high degree of proportionality with conventional electoral systems has traditionally required much more complex systems; In practice the seats have had to be distributed either in several stages by different formulas at different levels, as in the model proposed by the Ministry of Justice, or by using two or more parallel electoral systems in the same election.[78] Until now, the only alternative to such multi-tiered electoral systems for reaching a level of proportionality that is anywhere near what we have seen here has been to either greatly increase the size (or "magnitude") of electoral districts – or to abolish them altogether. The electoral region offers not only a simpler solution that is more transparent to the voter, but it also allows us to keep small districts as vehicles for geographically proportionate representation, as has been the goal in the Finnish electoral reform plans.

[76] Gallagher 1991, p. 46 & 2006, p. 621; EISA 2009.
[77] Lijphart 1994, pp. 160–162.
[78] See for instance Paloheimo 2008 and Taagepera 2007, pp. 23–46.

# 9. District level results

Next we must turn our attention to the results the different electoral systems produce at the district level. This includes both the proportionality of the seat distribution between parties in individual districts as well as the election of individual candidates. We know from the way the different electoral systems allocate the seats from the national level to the districts and on to individual candidates that these results are bound to be somewhat different even if the national results would be identical, as is the case between the direct-distribution Roinila–d'Hondt and the Ministry of Justice proposal.

Given that it makes little sense and adds little benefit to present the complete result tables for all 14 districts here, we will instead take the complete result tables of two of the districts as examples and use the indices of disproportionality to analyse the rest. The complete district level results are presented in Appendices A and B.

## 9.1. Measuring district-level proportionality

In order to get a useful comparison of the district level proportionality produced by the different systems it is naturally necessary to calculate the indices of disproportionality separately for each district. However, comparing those results district by district for all four electoral systems under our microscope would be an unnecessarily tedious task. Putting all of the districts, electoral systems and index values into a single matrix would be possible, but it would only result in an unwieldy table that would be too hard to comprehend for the added value it would give us in our quest to understand the tangible, real-world differences between the systems.

What I did instead was to calculate an *average* of the disproportionality measurements of each district for each of the electoral systems, whereby each cell in Table 5 contains the average value for all 14 districts for that particular index.

**Table 5.** District-level indices of disproportionality for the different electoral systems. Calculations are based on the district-level seat shares of parties in parliament. With the exception of the largest deviation (LD), values presented are averages of the index values of all 14 districts. Smaller values indicate less disproportionate results.

The formulas used to calculate the indices were introduced in Chapter 3.

| System | LD | I | D | LSq |
|---|---|---|---|---|
| d'Hondt | 14,4 | 2,5 | 12,2 | 7,3 |
| District-by-district Roinila–d'Hondt | 18,9 | 3,5 | 18,2 | 11,1 |
| Direct-distribution Roinila–d'Hondt | 18,1 | 3,2 | 17,6 | 10,9 |
| d'Hondt & Hare–Niemayer | 9,8 | 1,8 | 9,1 | 5,0 |

Here the proposal by the Ministry of Justice working group has been listed separately, as the Hare–Niemayer method it uses to allocate seats into districts produces a distinct result from the direct distribution method I have proposed, despite the identical result they produce at the national level.

As we can easily see from the table, here the added complexity of the Hare–Niemayer seat distribution method really pays off. While the traditional d'Hondt method produces a better district level proportionality than the other electoral region models – as could have been expected since it doesn't have to take into account what happens outside district boundaries – the quota-based Hare–Niemayer method absolutely trumps it. That it does so despite the electoral region model it uses to calculate the national-level results is truly remarkable.

What this means in plain English is that the combination of the d'Hondt formula and the Hare–Niemayer method as proposed by the Ministry of Justice working group produces better proportionality than the traditional, district-bound d'Hondt method at both the national *and* the district levels. This may be a redeeming quality for its otherwise seemingly unnecessary complexity, but this benefit naturally has to be weighed against the penalty of making the electoral system that much harder to understand for the ordinary voter.

However, since the districts used in Finland vary quite considerably in their magnitude – ranging from small six-member constituencies of eastern Finland to the 34-member constituency of the capital region of Uusimaa – the average figures presented in Table 5 do a poor job at accurately representing proportionality in the smallest districts. It is therefore necessary and useful to take a look at a few of the districts with the smallest numbers of elected representatives. This gives us a better idea of how well the different electoral systems function in small districts and whether the

election of candidates from those districts is proportionate to the vote shares of their parties and thus representative of the stated will of the electorate. Table 6 gives the indices of disproportionality measured as an average for three of the smallest districts. Two of the districts have a district magnitude of six, while the third elects seven representatives to parliament.

**Table 6.** District-level indices of disproportionality for the different electoral systems calculated for the three smallest districts. Calculations are based on the district-level seat shares of parties in parliament. With the exception of the largest deviation (LD), values presented are averages of the index values of Pohjois-Karjala, Etelä-Savo and Lappi districts. Smaller values indicate less disproportionate results.

The formulas used to calculate the indices were introduced in Chapter 3.

| System | LD | I | D | LSq |
|---|---|---|---|---|
| d'Hondt | 14,4 | 5,8 | 17,7 | 11,4 |
| District-by-district Roinila–d'Hondt | 18,9 | 7,9 | 24,7 | 16,4 |
| Direct-distribution Roinila–d'Hondt | 14,9 | 6,4 | 20,2 | 13,3 |
| Hare–Niemayer | 9,8 | 3,8 | 11,6 | 6,9 |

Unsurprisingly, given their small district magnitudes, these three districts were by far the worst offenders in terms of proportionality in all of the electoral systems. For comparison, the average deviation measured as Rae's index (*I*) for the largest of the districts remained well below 1.0 for all electoral systems. Their largest deviation likewise never reached 7.0 under any of our electoral systems while remaining a very low 1.8 with the Hare–Niemayer method. These figures, when compared to the numbers in Table 6, illustrate quite clearly how big of a limiting factor district magnitude can be for proportionality. Contrast these values with the results achieved by all of the electoral region models at the national level in the previous chapter, and you can see what difference it makes to have nearly two hundred seats to distribute instead of just six or seven. Simply put, electoral proportionality needs room to grow.[79]

Thus, if we judge the proportionality of the district level results in absolute rather than comparative terms, the level of proportionality afforded by any of the electoral systems under our comparison is rather abysmal. The index values produced by the Hare–Niemayer method here really only look good by comparison to values that are even worse. It, too, only achieves decent proportionality in large districts with ten or more seats; in smaller districts there simply aren't enough seats for truly

[79] For a more detailed study on how district magnitude affects district level (as well as supra-district) proportionality, see Taagepera & Shugart 1989, pp. 117–125.

proportional distribution. The level of proportionality it achieves in those larger districts is, however, truly remarkable – even compared to district-bound electoral systems.

There is one crucial standard of proportionality that we yet haven't looked at, and that only the Hare–Niemayer method, out of all of our electoral systems, successfully clears: In no district does it allow a party to win more seats than another party that received more votes. This phenomenon happens with both variations of the Roinila–d'Hondt method due to the way the seats are shuffled from one district to another when a district is already full or when correcting for underrepresentation. In fact, if we look at the largest district of Uusimaa with is 34 seats, in Appendix B, we can see that the Roinila–d'Hondt method in both its variations awards more seats to a party that won circa four percent of the district vote than to parties that received over 10 percent of the vote. While such extreme disproportionality may suddenly feel unpalatable from the point of view of democracy, it only occurs because the smaller party could not get its "fair share" of seats from other districts. The same phenomenon of a party winning more seats than its competitors with less votes also occurs with some frequency with the widely used traditional d'Hondt system, although for different reasons, so it does not necessarily pose a problem for democratic legitimacy. Nevertheless, in this crude test of proportionality only the Hare–Niemayer method passes the requirement for consistent proportionality at the district level.

There is a debate to be had about the importance of district level proportionality to begin with, however. If the purpose of the election is to elect a national legislature (or equivalent) with a seat distribution that is proportional to the vote shares of each party, does the proportionality of the district level results matter? At least in the Finnish system of governance the district representatives never convene to decide or to legislate on anything amongst themselves; the districts exist solely to provide representatives from all parts of the country. That is to say that the seat shares the parties received in one particular district do not matter – what matters is seat distribution in the legislature, and that seat distribution is in all of the electoral region models decided independently from the seat distribution inside the districts.[80]

More relevant to the dynamics of legislation than district level proportionality is the question of which individual candidates get elected, and whether that reflects the expressed will of their districts' voters. This aspect is perhaps likely to be considered more important by the voters as

[80] District-level seat distribution only affects the national-level seat distribution to some extent in the first phase of the district-by-district Roinila–d'Hondt method, but even there any underrepresentation suffered by any parties in parliament are corrected based on the national-level results.

well, since in an open-list system they are expected to express their preference not only between parties, but between individual candidates.[81]

### 9.2. A look into the election of individual candidates

The different electoral systems under inspection here each produce a markedly different selection of Members of Parliament. This occurs even between the electoral region models despite their near-identical seat distribution between parties at the national level. It is therefore perhaps revealing of their ability to reflect the expressed will of the voters to take a closer look at who, specifically, gets elected and who doesn't in each of the systems. Of course, it would be a gargantuan effort to go through each and every point of difference in candidate selection between the systems in these pages. Fortunately it is also largely unnecessary. I will, however, highlight a few of the more interesting discrepancies that I think will help illustrate the very significant differences in the way the systems translate votes into seats for particular candidates.

If we look at the charts in Appendix A, which show the candidates elected under each of the electoral systems side-by-side, we can see at a glance that in most districts the differences in who gets elected are rather few. Indeed, in most districts only one or two seats change candidates, while in some there is no change. Even in the largest district, Uusimaa, where there are 34 seats up for grabs, only five seats change ownership when we swap from the district-bound d'Hondt system to either of the Roinila–d'Hondt models – and only one if the Hare–Niemayer method is used instead. So, apart from the effect it has on the district level proportionality, it is not the absolute number of changes that make them significant. Indeed, the small number of changes could be used to argue in favor of the reform since the better overall proportionality does not come at the cost of dramatically different electoral dynamics at the district level. There is clearly no need for the voters to dramatically change their voting behaviour or to feel anxiety if the traditional d'Hondt method was scrapped in favor of any of the electoral region models.

The few changes that do occur are, however, rather interesting if we look strictly at the individual candidates who get elected or left out of parliament under each system, as well as their respective vote counts. As should be expected, under none of the electoral systems we have looked at can candidates be certain to be elected simply because they received the most personal votes in their

[81] This is mostly a debate and an issue for electoral research that cannot be covered in depth in these pages. For the purposes of our analysis it is, however, prudent to keep in mind as one of the aspects that must be considered when deciding on which features of an electoral system are to be judged more important than others. For further discussion about the effects of electoral systems on voter choice as well as on voter behavior and voter preferences, see for instance Borg & Paloheimo 2009; Taagepera & Shugart 1989; and Renwick 2010.

district – let alone if they merely rank *among* the most voted candidates but are not *the* most popular candidate of their district. As seats are allocated to parties according the total number of votes received by each party, a candidate's high personal vote tally is only a secondary consideration in who gets elected. That said, all of the systems end up *primarily* electing candidates in the order of their personal vote counts. In other words, the candidate selection in all of the systems mostly follows what we would see under an SNTV voting system where party affiliation is ignored and candidates are elected only according to their personal votes. As we can see from the tables in Appendix A, the candidates who receive the most votes *tend* to get elected in all of the electoral systems despite their party-proportional seat distribution. The exceptions to that rule are seats that are assigned to less-voted-for parties and candidates in the name of proportionality – something that would not occur in an SNTV or STV system.

Looking at how many times the results of each system deviate from the 'SNTV-like' results of candidates with the most votes getting elected gives us a new measurement that is almost as easy to generate as it is to understand; The number of deviations effectively tells us how many times an electoral system overrules the candidate preference of voters in favor of their preference over parties. Table 7 gives an example table from Appendix A with the results of one of the smaller districts, Pohjois-Karjala:

**Table 7.** Election results from the district of Pohjois-Karjala calculated with the different electoral systems. District magnitude of the district is 6. Candidates are listed in the order of their personal vote counts from the highest to the lowest.

| [1] | Candidate | Party | Votes | Distribution figure, district | [2] | Distribution figure, region | [3] | [4] | Quota | [5] |
|---|---|---|---|---|---|---|---|---|---|---|
| 1. | Lahtela, Esa | SDP | 10 813 | 29 105 | ■ | 99 032 | ■ | ■ | SDP-1 | ■ |
| 2. | Cronberg, Tarja | VIHR | 7 804 | 9 955 | | 58 607 | ■ | ■ | VIHR-1 | ■ |
| 3. | Vehviläinen, Anu | KESK | 6 789 | 30 391 | ■ | 35 579 | ■ | ■ | KESK-1 | ■ |
| 4. | Hoskonen, Hannu | KESK | 5 982 | 15 196 | ■ | 25 617 | ■ | ■ | KESK-2 | ■ |
| 5. | Reijonen, Eero | KESK | 5 021 | 10 130 | ■ | 12 809 | | | | |
| 6. | Ravi, Pekka | KOK | 4 589 | 15 043 | ■ | 18 692 | ■ | ■ | KOK-1 | ■ |
| 7. | Kämäräinen, Matti | KESK | 4 534 | 7 598 | | 10 855 | | | | |
| 8. | Kähkönen, Lauri | SDP | 4 391 | 14 553 | ■ | 11 211 | | | SDP-2 | ■ |
| 9. | Tahvanainen, Säde | SDP | 3 359 | 9 702 | | 8 869 | | | | |
| … | | | | | | | | | | |
| 14. | Leppänen, Urpo | PS | 1 975 | 3 761 | | 14 032 | ■ | ■ | | |

[1] – District magnitude.
[2] ■ Elected with the d'Hondt method.
[3] ■ Elected with the district-by-district Roinila–d'Hondt method.
[4] ■ Elected with the direct-distribution Roinila–d'Hondt method.
[5] ■ Elected with the Hare-Niemayer quotas.

The candidates in Table 7 are listed in the order of who received the most personal votes. With the colored squares indicating who got elected with each electoral system, we can quickly see how many times each electoral system deviates from a purely personal-vote-based election. Given that

the district has six seats up for grabs, the six candidates with the most votes are the candidates who would get elected under an SNTV voting system.[82] Contrast this to the actual outcome of the 2007 elections (in orange) or to the simulated results of the different electoral region models (blue and green), and we can observe that all of them deviated from that 'SNTV-like' seat distribution by one seat. (Note that with the traditional d'Hondt system the second-most voted candidate in the entire district failed to get elected – we will return to that particular case in a moment.)

In the case of Pohjois-Karjala, then, the *number* of deviations from the voter preference of candidates is equal among all four systems, even if they differ in *who* gets elected. If we go through all of the districts and sum up the deviations for each system, we will get an idea about which of systems most closely follows the strict voter preference over candidates: The district-bound d'Hondt differs from the district-level candidate preference of voters a total of 23 times, the district-by-district Roinila–d'Hondt method 20 times, the direct-distribution Roinila–d'Hondt method 21 times, and the Hare–Niemayer method 28 times.

These numbers lead us to two conclusions. First, all systems produce a remarkably similar outcome to what could be expected of an SNTV system when it comes to the election of individual candidates;[83] only 10–14 percent of all candidates who would presumably get elected if only their personal votes mattered fail to get elected when we also take into account the party-list votes and party-proportional seat distribution. That is, of course, a significant number in and of itself as it is enough to decisively alter the legislative balance of power between parties, but it still means that over 85 percent of all candidates elected under any of our systems are likely to be candidates who were among the most voted for in their respective districts. Thus, all of the systems reflect and respect voter preferences over individual candidates quite well.

This observation brings us to our second conclusion on candidate selection. If we look at the number of deviations under each system and then look back to the district level proportionality of those systems, we can see that the tables have turned yet again; While the Hare–Niemayer method produced by far the most proportional seat distribution among parties at the district level, here it deviates the most from the candidate preferences of the voters. By contrast, the system with the worst district level proportionality, the district-by-district Roinila–d'Hondt method, is the most

[82] Of course we cannot truly expect the candidates who received the most individual votes under a d'Hondt system to also receive the highest number of votes in an SNTV system, for the different voting mechanisms of SNTV would encourage different voter behavior. However, we can reasonably expect that the most preferred candidates under the d'Hondt system would be quite popular under an SNTV system as well, and that the SNTV results would look broadly similar to the most-voted-for list under d'Hondt.
[83] Again not taking into account that the use of an SNTV voting system would alter voter behavior and likely lead to a consolidation of votes to fewer candidates.

faithful to voters' candidate preferences. Thus it can be concluded that greater district level proportionality comes at the cost of a greater mismatch between who the voters vote and who gets elected.

Granted, the result of the Hare–Niemayer method differs from that of the two Roinila–d'Hondt methods by only seven or eight candidates depending on which variant it is compared to. It is not an Earth-shattering difference in a parliament of 199 elected representatives. But when judging which system best reflects the will of the voters, we need to consider the voters' candidate preferences as much as district level proportionality. Which of them is ultimately more relevant to the voters is certainly debatable – and probably highly variable – but not something we can solve here. Suffice to say that no electoral system can achieve proportional seat distribution among parties while at the same time faithfully replicating voters' preferences over individual candidates, except by accident; it is a choice of priorities that has to be made when balancing the pros and cons of different electoral systems.

### 9.3. Two case studies

In Table 7 we noticed that the candidate who received the second-most votes of all candidates in the Pohjois-Karjala district, Tarja Cronberg of the Greens (VIHR[84]), failed to get elected under the traditional district-bound d'Hondt system. This was actually a minor real-life scandal in Finland in the aftermath of the 2007 elections, as it so clearly highlighted the shortcomings of the d'Hondt method. It was the outcome of the huge bias that the d'Hondt method exhibits in favor of large parties in small districts, whereby less-popular parties may fail to get even a single candidate elected even if that one candidate gets more votes than anyone else in the district.[85]

Cronberg's non-election also highlighted the rather problematic feature in the electoral system that a candidate with nearly 8 000 votes in one of the smallest districts cannot win a seat while a candidate from a far more populous district could get elected with barely over 1 000 votes.[86] While it can be argued, and justly so, that the election is not only about which candidate gets the most

[84] In Finnish: Vihreät.
[85] As it happened, Cronberg received only the second-most votes in the district, but she wouldn't have been elected even if the most-voted-for candidate had received less votes than her. This was often overlooked in the debate that followed the 2007 elections.
[86] Pirkko Ruohonen-Lerner was elected from Uusimaa district with just 1 058 votes (See Appendix A). She qualified for parliament from the 93rd place in a 34-member constituency even as Cronberg failed to qualify from the 2nd place of her 6-member constituency.

votes, such occurrences may nevertheless risk disenfranchising the voters of smaller districts and the supporters of smaller parties.[87]

As we can see from Table 7, the use of any of the electoral region models would avoid such 'injustice'. Under the Roinila–d'Hondt method Cronberg would either have been the fourth member of her party to get elected or to have received the fourth-largest distribution figure of her party, depending on the variant used, since she was the fourth-most-voted-for candidate of her party in the entire country. This would have made her practically certain to get elected, given that the party would have received 17 seats in total under either of the Roinila–d'Hondt variants. Figuring out how certain her election would have been under the Hare–Niemayer method is far more difficult: Her party received the last seat of the district with a comparison of the fractional remainders of the seat quotas, and as the adequacy of the size of that remainder depends on a whole host of other factors, it becomes exceedingly difficult to calculate how much the voting result should have changed for her party to lose that last seat in the district.[88] This serves as an example of just how much more difficult it may be for the voters to understand the causes and effects behind the election or non-election of a particular candidate when the Hare–Niemayer method is used instead of the plain d'Hondt distribution figures.

Regardless of the electoral region system used, Cronberg's election as an individual does not directly raise the number of seats her party would win compared to the historical outcome produced by the traditional d'Hondt system, but rather she would be elected in place of some less-voted-for candidate from the same party. Who that someone is varies depending on the seat distribution system used, but in every case he or she is guaranteed to have received less votes, and likely from a more populous district, than Cronberg. I dare argue that that is more in line with the principles of democracy than the historical outcome produced by the district-bound d'Hondt method, which left a candidate who received more votes than almost four fifths of the *elected* candidates – both in her district and in the entire country – unelected.

To illustrate that the Cronberg case is not just an isolated anomaly or something that can occur only in small districts, the 2007 election results conveniently provide us another similar, albeit much less discussed, case. That is the case of Sari Essayah of the Christian Democrats (KD[89]), in the district of Varsinais-Suomi. As we can see from the following table, Varsinais-Suomi has a district magnitude of 17, making it one of the largest in Finland.

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[87] Borg & Paloheimo 2009, pp. 243–276.
[88] In the Hare–Niemayer system she would technically get her seat with her personal vote tally after her party was allocated one seat in the district with the quota system, but as she received the most votes of her party in her district she automatically receives the first seat assigned to her party there.
[89] In Finnish: Kristillisdemokraatit.

**Table 8.** Election results from the district of Varsinais-Suomi calculated with the different electoral systems. District magnitude of the district is 17. Candidates are listed in the order of their personal vote counts from the highest to the lowest.

| [1] | Candidate | Party | Votes | Distribution figure, district | [2] | Distribution figure, region | [3] | [4] | Quota | [5] |
|---|---|---|---|---|---|---|---|---|---|---|
| 1. | Wallin, Stefan | RKP | 12 097 | 51 979 | ■ | 126 520 | ■ | ■ | RKP-1 | ■ |
| 2. | Paasio, Heli | SDP | 11 233 | 53 281 | ■ | 148 549 | ■ | ■ | SDP-1 | ■ |
| 3. | Kanerva, Ilkka | KOK | 11 079 | 66 793 | ■ | 154 210 | ■ | ■ | KOK-1 | ■ |
| 4. | Essayah, Sari | KD | 7 734 | 11 377 | | 44 930 | ■ | ■ | KD-1 | ■ |
| 5. | Koskinen, Marjaana | SDP | 7 649 | 26 641 | ■ | 45 707 | ■ | ■ | SDP-2 | ■ |
| 6. | Kaunisto, Timo | KESK | 7 213 | 25 990 | ■ | 45 745 | ■ | ■ | KESK-1 | ■ |
| 7. | Virolainen, Anne-Mari | KOK | 6 812 | 33 397 | ■ | 47 449 | ■ | ■ | KOK-2 | ■ |
| 8. | Kiviranta, Esko | KESK | 6 210 | 17 326 | ■ | 29 110 | ■ | ■ | KESK-2 | ■ |
| 9. | Hemmilä, Pertti | KOK | 6 188 | 22 264 | ■ | 28 038 | ■ | ■ | KOK-3 | ■ |
| 10. | Hyssälä, Liisa | KESK | 6 152 | 12 995 | ■ | 27 845 | ■ | ■ | KESK-3 | ■ |
| 11. | Orpo, Petteri | KOK | 6 069 | 16 698 | ■ | 25 702 | ■ | ■ | KOK-4 | ■ |
| 12. | Taimela, Katja | SDP | 5 984 | 17 760 | ■ | 24 758 | ■ | ■ | SDP-3 | ■ |
| 13. | Andersson, Janina | VIHR | 5 587 | 22 868 | ■ | 39 072 | ■ | ■ | VIHR-1 | ■ |
| 14. | Lapintie, Annika | VAS | 5 575 | 25 937 | ■ | 30 537 | ■ | ■ | VAS-1 | ■ |
| 15. | Niinistö, Ville | VIHR | 5 182 | 11 434 | ■ | 26 048 | ■ | ■ | | |
| 16. | Kantola, Ilkka | SDP | 5 091 | 13 320 | ■ | 15 236 | | | SDP-4 | ■ |
| 17. | Laxell, Jouko | KOK | 5 056 | 13 359 | ■ | 22 030 | ■ | ■ | KOK-5 | ■ |
| 18. | Salo, Mauri | KESK | 4 877 | 10 396 | | 12 084 | | | | |
| 19. | Puisto, Virpa | SDP | 4 743 | 10 656 | | 12 642 | | | | |
| 20. | Lehtinen, Seppo | SDP | 4 716 | 8 880 | | 12 379 | | | | |
| 21. | Huovinen, Pentti | KOK | 4 700 | 11 132 | | 20 561 | ■ | ■ | | |
| 22. | Perho, Maija | KOK | 4 602 | 9 542 | | 19 276 | | | | |
| 23. | Yrttiaho, Jyrki | VAS | 4 492 | 12 969 | ■ | 17 450 | | | VAS-2 | ■ |
| 24. | Immonen, Mikko | VAS | 4 113 | 8 646 | | 16 286 | | | | |
| 25. | Helminen, Sari | SDP | 3 962 | 7 612 | | 10 804 | | | | |

[1] – District magnitude.
[2] ■ Elected with the d'Hondt method.
[3] ■ Elected with the district-by-district Roinila–d'Hondt method.
[4] ■ Elected with the direct-distribution Roinila–d'Hondt method.
[5] ■ Elected with the Hare-Niemayer method.

As we can see from Table 8, Sari Essayah received the fourth-most votes of any candidate in her district. She was also the third-most-voted-for candidate of her party in the entire country, separated from the second place by less than a hundred votes. Regardless, under the district-bound d'Hondt system she failed to get elected. This despite the fact that another candidate from the same party was elected to parliament from another district with less than a fourth of her votes.[90] If any of the electoral region models were used instead, she would have been practically guaranteed a seat in parliament due to her high ranking on her party's list as well due to her small party winning over 40 percent more seats than under the d'Hondt system overall.

[90] Sari Palm was elected from the district of Kymi with only 1 749 votes. See Appendix A.

Essayah's case is one where we can plainly see what causes underrepresentation in the d'Hondt system and other district-bound systems like it; the handicap they place on smaller parties – or just parties with a more fragmented support base – is nearly insurmountable, no matter how popular their individual candidates are. As long as the support of a less popular party isn't heavily focused into one or two districts, they have no hope of competing with larger parties on equal terms. Since ideological or political differences are not always defined by geography, this feature puts different parties at massively different handicaps. It's as if the fastest runners on a Marathon had their finish line drawn at the 30-kilometer mark and the rest of the pack were expected to compete with them by running the full length of the race.

These two brief case studies reveal little about the differences between the different single-electoral-region models that we set out to compare. They do, however, make a strong practical case in favor of the electoral region concept as such when compared to the traditional d'Hondt method or, by extension, any other district-bound system of proportional representation.

Another new aspect that these case studies reveal is that it is not only the *number* of deviations from voters' candidate preferences that matters, but also *where* in the pack those deviations occur; Despite the Hare–Niemayer method deviating from the voters' strict candidate preferences more often than the district-bound d'Hondt system, it never disqualified a candidate who was among the most voted in any given district – unlike the d'Hondt method. We can therefore conclude that these two case studies quite clearly put to rest any worries that the adoption of the electoral region would lead to results that are *less* in line with voter preferences in individual districts than the results produced by single-district electoral systems. We can safely say that the opposite is true, and that the electoral region concept is far more likely to lead to the election of candidates that the voters actually voted for.

# 10. Conclusions

We set out to compare the national and district level proportionality of three different electoral systems based on the concept of a single nation-wide electoral region, and also looked at how the systems differ in the election of individual candidates. What did we learn? The three new electoral systems that we put under our microscope, as well as the d'Hondt system that we used as a standard of comparison, all have their unique strengths and weaknesses that make them shine in one area but show some lackluster performance in another. By their very nature all electoral systems are necessarily compromises between different features which all result in different outcomes. Often one desirable feature comes at the cost of another, whether that cost is added complexity, less proportional district level results, less proportional overall results, or results where the election of candidates corresponds little with the number of votes they personally received.

Ultimately, the decision on which aspects of an electoral system are deemed more important than others is a political one, and one for which there is no final answer. While Alan Renwick's list of outcomes that electoral systems should produce in a democracy[91] is a good starting point for evaluating the merits of any electoral system, they are in some ways contradictory with one another in such a way that no single electoral system can perfect them all at the same time. We cannot therefore conclude which of the electoral systems presented here performs 'better' than others overall, as each has features which may be deemed undesirable in one context yet be found beneficial in another. The selection of an electoral system is never a purely technical one, but always political. We can help make that political value judgment a little easier by summarizing the different characteristics we have identified for the different electoral region models.

## 10.1. Comparing the electoral region models to traditional electoral systems

First we can identify what the three electoral region models have in common that separates them from the district-bound d'Hondt system and other traditional electoral systems. As we saw in Chapter 8, all of the electoral region models produce a markedly better proportionality at the national level than the standard d'Hondt system. In fact, we saw them producing better overall

[91] Namely: "Fair distribution of seats, avoidance of anomalous results, fair distribution of power, representation of society, voter choice, accountability of governments, accountability of individual politicians, checks and balances, encouraging effective political parties [and] simplicity". Renwick 2010, p. 39.

proportionality than any other electoral system in the world today, when we take into account the district magnitudes and the total number of seats in parliament that we used in our calculations.[92]

The electoral region concept itself is the only system known to widely available, English-language political science literature that achieves near perfect proportionality with such a low average district magnitude[93] without the need to have multi-tiered elections or to run multiple electoral systems side-by-side. With the complete[94] elimination of underrepresentation from all parties in parliament using the Roinila–d'Hondt method, we observed as perfectly proportional seat distribution as is practically feasible in any electoral system; As all parties elected to parliament received *at least* as many seats as their share of all votes cast indicated, and as the remaining disproportionality of the seat distribution amounted to less than a half-a-seat per party on average, it is practically impossible to get a consistently better proportional seat distribution between parties than what the Roinila–d'Hondt method produces.

The electoral region model does add some complexity over traditional single-district electoral systems such as the d'Hondt system. However, relative to the d'Hondt method, all of our electoral region models change only the mathematics of the seat distribution, not the act of voting itself; Voters continue to cast only a single vote in favor of a single candidate and a party in a single district, just as in the traditional d'Hondt system. And as the Roinila–d'Hondt method demonstrated, this can be done by using only one electoral formula which, at its core, is no more complex than the original d'Hondt formula it is based on.[95] This makes the electoral region concept far simpler than the many multi-tiered electoral systems it could replace.[96] As simplicity was one of the key traits identified for electoral systems in representative democracies by Alan Renwick, as well as by the working group set to study the alternatives for electoral reform in Finland, this is a significant observation.[97]

Finally, we saw that the electoral region concept increases voter choice over both individual candidates and parties; As votes cast in one district influence the election results in all districts, voters will have to worry less about 'wasting' their votes on a party that will ultimately fail to get even a single candidate elected in their district. Voters may therefore contemplate on voting for candidates and parties who they previously could not have voted without a serious risk of seeing

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[92] The South African electoral system which beat the *LSq* score of circa 0.5 of the electoral region models achieves its result by electing twice the number of representatives with two different electoral systems.
[93] 199 seats distributed into 14 districts with an average district magnitude of 14.2.
[94] Where underrepresentation is eliminated either entirely or to a fraction of a single seat. See Chapter 8.3.
[95] See Chapter 5.2 for full description of the system.
[96] For an array of dizzyingly complex electoral systems that are actually being used around the world, see Taagepera 2007, pp. 23–46; and Taagepera & Shugart 1989, pp. 20–36, 127–133.
[97] Renwick 2010, pp. 38–42; OMKM 2008:2, p. 44.

their vote go to waste. On the other hand parties that may have previously forgone contesting the elections in districts where their chances of gaining seats were very low would, under the electoral region model, stand to benefit from all of their votes even in districts where their candidates would not get elected. This would encourage them to register candidates in more districts, thus further expanding voter choice. This expansion of voter choice from two directions is especially beneficial to small parties with either a very fragmented or a heavily concentrated voter base, as they would benefit from all of the votes they received even if they couldn't get their candidates elected in every district they contested.

But what about the difference *between* the different electoral region models? Achilles Westling's "spiral model" was not included in this study, but the three systems we did compare produced overall election results that were either identical with one another or nearly so. Where they differed was at the district level and in which individual candidates made the cut.

### 10.2. Comparing the electoral region models with one another

All of the multitude differences in the formulas and methods of the three electoral region models that we studied here lead, in the end, to only two major points of difference: District-level proportionality and the simplicity or complexity of each system.

Where the proposed combination of d'Hondt and Hare–Niemayer formulas by the Ministry of Justice working group leads to an unmatched level of proportionality at the district level, its use of two different formulas in two distinct phases makes the system far more difficult to understand to both the expert and the layman alike. This was recognized also by the working group itself, although it duly noted that the use of computers will make calculating and verifying the election result easy regardless.[98] True as it is, the use of computers to generate the election outcome makes it no less difficult for the average voter to understand – let alone to calculate – how their vote actually translates into a particular candidate being elected.[99]

For all its complexity, the combination of the d'Hondt and Hare–Niemayer methods is nevertheless far simpler than many of the multi-tiered electoral systems used around the world today. Many countries employ two or more parallel electoral systems in a single election in order to boost the proportionality of the seat distribution between parties while maintaining small districts as vehicles

[98] OMKM 2008:2, p. 26.
[99] The working group estimated that calculating the seat distribution with the aid of Microsoft Excel spreadsheets takes approximately half an hour – that's presumably if you already know precisely what you are supposed to do. OMKM 2008:2, p. 26.

of regional representation.[100] Even with the combination of the d'Hondt and Hare–Niemayer methods, the electoral region model of the Ministry of Justice working group achieves both goals with a far simpler solution: The voter need only cast one vote in one district instead of two or more separate ballots for separate elections at different levels. But if simplicity is desired, the Roinila–d'Hondt method in either of its variations achieves the same or better proportionality with the use of only one electoral formula and a method that is almost as straightforward as the traditional and widely used d'Hondt method.

The trade-off for simplicity in the Roinila–d'Hondt method is that it really doesn't pay attention to proportional seat distribution among parties at the district level. In that regard it doesn't come close to even the traditional d'Hondt method, whereas the Hare–Niemayer method produces a district-level seat distribution that far surpasses even the original d'Hondt system in proportionality. If that is a feature that is to be given a high priority, then the winner of this comparison is quite clear: The combination of a single nation-wide electoral region, the d'Hondt formula and the Hare–Niemayer method produces a seat distribution whose proportionality at both the national and the district levels is very likely unmatched by any other electoral system in the world that doesn't employ multiple electoral systems or multiple parallel elections.[101]

The Roinila–d'Hondt method, while largely ignoring proportional seat distribution at the district level, is on the other hand more faithful to the voters' preferences over individual candidates, making fewer exceptions to electing the most-voted-for candidates of a given district. In practical terms, when two candidates from the same district are competing for that one final seat left in the district, the Roinila–d'Hondt method is more likely to favor the candidate who received more personal votes. The Hare–Niemayer method, by contrast, is more likely to pick either of the candidates seemingly at random, because its outcome is less influenced by the number of personal votes acquired by each candidate than it is by the abstract fractional seat quota given to each party in the district.

Without understanding all the underlying mathematics, an ordinary voter observing the results of the Roinila–d'Hondt system may intuitively conclude that one candidate won instead of another because they had received more votes and therefore held the higher distribution figure, which in turn entitled them to the seat. If instead the same voter was observing the results of the Hare–

[100] See for instance Taagepera 2007, pp. 23–46; and Taagepera & Shugart 1989, pp. 20–36, 127–133.

[101] Reaching a similar level of proportionality at both the national and district levels is possible by distributing a part of the seats at the national level with one electoral system and another part of the seats at the district level with another. This obviously makes the system far more complex, however, and doesn't help with reducing the number of wasted votes unlike the electoral region model.

Niemayer system, they might intuitively conclude that the candidate was elected because her party won more votes and therefore more seats in the district than the party of the competing candidate. Both interpretations would likely be correct and they could both be considered equally legitimate reasons for an individual candidate to get elected – even as both outcomes could happen with the exact same voting result, the deciding factor in such a case being not the voting result *per se* but rather the electoral system itself.

### 10.3. Final notes

While the example of the previous paragraph illustrates perhaps the key difference between the Hare–Niemayer and Roinila–d'Hondt methods, it also highlights the careful consideration that electoral systems and their features must be given. Through such seemingly minor distinctions or technical differences they may shape the political landscape and ultimately the laws of a society even more than the voters' ballots. The mathematical formulas or other finer details of electoral systems may never be of much interest to most voters or even to most politicians, but as Taagepera once observed, they can indeed "make or break" entire nations – and they can certainly change election results.

The novel concept of district-linking electoral regions is therefore not a trivial development or only a technical curiosity. Should it be adopted in any of its variations, it may well end up transforming political landscapes and ushering in new political realities wherever it is adopted. At the very least it offers countries and politicians new choices in electoral systems that they previously didn't have, even as it gives political scientists engaged in electoral research a new branch to study and a new electoral concept to develop further. Even if never adopted, it sets a new benchmark in proportionality for all existing and future systems of proportional representation.

Whichever of the three electoral region models we have compared here would end up being adopted, the adoption of the electoral region itself creates greater proportionality, reduces the effect of small district magnitudes, and puts candidates from different parties and different districts on a more equal footing with one another. All of this results in an election result that is more in line with the will of the voters, whether we look at the number of seats allocated to each party or at the individual elected representatives.

As such, the electoral region concept offers a viable option for any country that opts for party-list proportional representation and wishes to use multiple districts to ensure representation from all parts of the country. But the electoral region concept is not limited only to national elections with sub-national districts. Looking beyond the national level, the electoral region concept could just as well be adopted for federal elections, such as for the elections to the European Parliament, to the

United States Congress, or to the German Bundestag. If applied to the elections to the European Parliament, for instance, the electoral region concept would allow voters in all member states to cast their votes directly in support of union-wide party lists while still electing their own national candidates from their own country or its sub-national districts. This would effectively transform the separate elections of each of the 28 member states into a single, Europe-wide election.[102]

Nor are the practical applications of the electoral region concept by no means limited to the three electoral systems we studied in this paper, or even to the three others that were only briefly discussed. Despite the fact that all of the systems presented in this paper were based on the d'Hondt formula, the electoral region concept could well be adapted to be used with any number of other electoral formulas or combinations thereof. There may even be entirely novel applications waiting to be discovered which will beat all of the aforementioned models not only in national and district level proportionality, but also in simplicity. If there already exists a dizzying array of electoral systems for countries to choose from now, the electoral region concept opens the door for many more to come.

[102] This would have the benefit of promoting the creation of more cohesive and truly pan-European European political parties, while at the same ensuring a more proportional seat distribution between those parties in the European Parliament.

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# Appendices

## Appendix A. Election results by district

### Etelä-Savo

| [1] | Candidate | Party | Votes | Distribution figure, district | [2] | Distribution figure, region | [3] | [4] | Quota | [5] |
|---|---|---|---|---|---|---|---|---|---|---|
| 1. | Viitamies, Pauliina | SDP | 6 690 | 29 837 | ■ | 33 011 | ■ | ■ | SDP-1 | ■ |
| 2. | Komi, Katri | KESK | 5 885 | 30 759 | ■ | 22 872 | ■ | ■ | KESK-1 | ■ |
| 3. | Leppä, Jari | KESK | 5 762 | 15 380 | ■ | 20 659 | ■ | ■ | KESK-2 | ■ |
| 4. | Järvinen, Heli | VIHR | 5 525 | 14 919 | ■ | 33 490 | ■ | ■ | VIHR-1 | ■ |
| 5. | Nousiainen, Pekka | KESK | 5 267 | 10 253 | | 13 922 | – | ■ | | |
| 6. | Backman, Jouni | SDP | 5 259 | 9 946 | | 18 006 | ■ | ■ | SDP-2 | ■ |
| 7. | Seppälä, Arto | SDP | 3 955 | 7 459 | | 10 611 | | | | |
| 8. | Nepponen, Olli | KOK | 3 728 | 21 108 | ■ | 11 862 | | | KOK-1 | ■ |
| 9. | Korhonen, Seija | KESK | 3 401 | 7 690 | | 8 539 | | | | |
| 10. | Toivakka, Lenita | KOK | 3 233 | 10 554 | ■ | 10 112 | | | | |
| 11. | Riikonen, Teuvo V. | KD | 2 454 | 7 036 | | 11 233 | | | | |
| 12. | Nenonen, Jukka | KESK | 2 432 | 6 152 | | 6 671 | | | | |
| 13. | Linnamurto, Saku | KOK | 2 369 | 5 277 | | 7 432 | | | | |
| 14. | Oksa, Pertti | KOK | 2 123 | 4 222 | | 6 633 | | | | |
| 15. | Kakriainen, Markku | KESK | 1 954 | 5 127 | | 6 099 | | | | |
| 16. | Pehkonen, Tauno | PS | 1 865 | 3 518 | | 12 473 | ■ | | | |
| 17. | Ojala, Sakari | SDP | 1 716 | 5 967 | | 5 451 | | | | |
| 18. | Wright, Helena | KOK | 1 485 | 3 015 | | 5 140 | | | | |
| 19. | Taavitsainen, Satu | SDP | 1 395 | 4 973 | | 4 993 | | | | |
| 20. | Tulla, Matti | KESK | 1 295 | 4 394 | | 5 043 | | | | |
| 21. | Suomalainen, Ritva | SDP | 1 241 | 4 262 | | 4 679 | | | | |
| 22. | Koivikko, Jyrki | KOK | 1 015 | 2 639 | | 4 254 | | | | |

[1] – District magnitude.
[2] ■ Elected with the d'Hondt method.
[3] ■ Elected with the district-by-district Roinila–d'Hondt method.
– Disqualified due to correction of underrepresentation.
[4] ■ Elected with the direct-distribution Roinila–d'Hondt method.
[5] ■ Elected with the Hare-Niemayer method.

## Helsinki

| [1] | Candidate | Party | Votes | Distribution figure, district | [2] | Distribution figure, region | [3] | [4] | Quota | [5] |
|---|---|---|---|---|---|---|---|---|---|---|
| 1. | Zyskowicz, Ben | KOK | 17 607 | 94 581 | ■ | 308 421 | ■ | ■ | KOK-1 | ■ |
| 2. | Tuomioja, Erkki | SDP | 12 894 | 67 122 | ■ | 594 194 | ■ | ■ | SDP-1 | ■ |
| 3. | Heinäluoma, Eero | SDP | 10 948 | 33 561 | ■ | 118 839 | ■ | ■ | SDP-2 | ■ |
| 4. | Brax, Tuija | VIHR | 9 692 | 63 440 | ■ | 117 215 | ■ | ■ | VIHR-1 | ■ |
| 5. | Sarkomaa, Sari | KOK | 9 155 | 47 291 | ■ | 88 120 | ■ | ■ | KOK-2 | ■ |
| 6. | Vapaavuori, Jan | KOK | 9 091 | 31 527 | ■ | 77 105 | ■ | ■ | KOK-3 | ■ |
| 7. | Salolainen, Pertti | KOK | 8 621 | 23 645 | ■ | 68 538 | ■ | ■ | KOK-4 | ■ |
| 8. | Sinnemäki, Anni | VIHR | 7 694 | 31 720 | ■ | 46 886 | ■ | ■ | VIHR-2 | ■ |
| 9. | Kiviniemi, Mari | KESK | 7 385 | 21 703 | ■ | 64 043 | ■ | ■ | KESK-1 | ■ |
| 10. | Arhinmäki, Paavo | VAS | 6 859 | 21 366 | ■ | 40 716 | ■ | ■ | VAS-1 | ■ |
| 11. | Haatainen, Tuula | SDP | 6 686 | 22 374 | ■ | 31 273 | ■ | ■ | SDP-3 | ■ |
| 12. | Asko-Seljavaara, Sirpa | KOK | 6 293 | 18 916 | ■ | 30 842 | ■ | ■ | KOK-5 | ■ |
| 13. | Hiltunen, Rakel | SDP | 6 205 | 16 781 | ■ | 28 295 | ■ | ■ | SDP-4 | ■ |
| 14. | Thors, Astrid | RKP | 5 938 | 18 894 | ■ | 21 087 | ■ | ■ | RKP-1 | ■ |
| 15. | Perkiö, Sanna | KOK | 5 639 | 15 764 | ■ | 23 725 | ■ | ■ | KOK-6 | ■ |
| 16. | Haavisto, Pekka | VIHR | 5 418 | 21 147 | ■ | 29 304 | ■ | ■ | VIHR-3 | ■ |
| 17. | Sumuvuori, Johanna | VIHR | 5 173 | 15 860 | ■ | 23 443 | ■ | ■ | VIHR-4 | ■ |
| 18. | Alanko-Kahiluoto, Outi | VIHR | 4 622 | 12 688 | ■ | 19 536 | ■ | ■ | VIHR-5 | ■ |
| 19. | Relander, Jukka | VIHR | 4 403 | 10 573 | | 18 033 | ■ | ■ | | |
| 20. | Hakola, Juha | KOK | 4 258 | 13 512 | ■ | 15 816 | ■ | | KOK-7 | ■ |
| 21. | Lipponen, Päivi | SDP | 4 202 | 13 424 | ■ | 11 004 | | | SDP-5 | ■ |
| 22. | Abdulla, Zahra | VIHR | 4 198 | 9 063 | | 16 745 | – | ■ | | |
| 23. | Karhuvaara, Arja | KOK | 4 069 | 11 823 | ■ | 14 019 | | | | |
| 24. | Krohn, Minerva | VIHR | 3 938 | 7 930 | | 14 652 | | | | |
| 25. | Puoskari, Mari | VIHR | 3 934 | 7 049 | | 13 790 | | | | |
| 26. | Söderman, Jacob | SDP | 3 902 | 11 187 | | 10 424 | | | | |
| 27. | Puhakka, Sirpa | VAS | 3 866 | 10 683 | | 15 269 | ■ | ■ | | |
| 28. | Bryggare, Arto | SDP | 3 857 | 9 589 | | 10 071 | | | | |
| 29. | Valtonen, Olli | KOK | 3 826 | 10 509 | | 12 095 | | | | |
| 30. | Suomalainen, Nina | KOK | 3 579 | 9 458 | | 11 423 | | | | |
| 31. | Taipale, Ilkka | SDP | 3 525 | 8 390 | | 9 284 | | | | |
| 32. | Vanhanen, Merja | KESK | 3 274 | 10 852 | | 8 427 | | | | |
| … | | | | | | | | | | |
| 36. | Pohtamo-Hietanen, Anne | KD | 2 582 | 8 796 | | 12 254 | | | | |
| … | | | | | | | | | | |
| 43. | Halla-aho, Jussi | PS | 2 215 | 9 415 | | 16 037 | – | | PS-1 | ■ |
| … | | | | | | | | | | |
| 48. | Lampela, Seppo (Steen 1) | SKP | 1 842 | 4 495 | | 18 277 | ■ | ■ | | |

[1] – District magnitude.
[2] ■ Elected with d'Hondt.
[3] ■ Elected with district-by-district Roinila–d'Hondt.
– Disqualified due to correction of underrepresentation.
■ Disqualified due to legal threshold.
[4] ■ Elected with direct-distribution Roinila–d'Hondt.
■ Disqualified due to legal threshold.
[5] ■ Elected with Hare-Niemayer.

**Häme**

| [1] | Candidate | Party | Votes | Distribution figure, district | [2] | Distribution figure, region | [3] | [4] | Quota | [5] |
|---|---|---|---|---|---|---|---|---|---|---|
| 1. | Koskinen, Johannes | SDP | 9 056 | 52 902 | ■ | 59 419 | ■ | ■ | SDP-1 | ■ |
| 2. | Räsänen, Päivi | KD | 8 053 | 14 576 | ■ | 134 790 | ■ | ■ | KD-1 | ■ |
| 3. | Koskinen, Jari | KOK | 7 309 | 46 708 | ■ | 51 403 | ■ | ■ | KOK-1 | ■ |
| 4. | Anttila, Sirkka-Liisa | KESK | 6 880 | 38 383 | ■ | 37 672 | ■ | ■ | KESK-1 | ■ |
| 5. | Taiveaho, Satu | SDP | 6 760 | 26 451 | ■ | 34 953 | ■ | ■ | SDP-2 | ■ |
| 6. | Nurmi, Tuija | KOK | 6 749 | 23 354 | ■ | 41 123 | ■ | ■ | KOK-2 | ■ |
| 7. | Viljanen, Ilkka | KOK | 6 303 | 15 569 | ■ | 32 465 | ■ | ■ | KOK-3 | ■ |
| 8. | Filatov, Tarja | SDP | 5 696 | 17 634 | ■ | 22 007 | ■ | ■ | SDP-3 | ■ |
| 9. | Skinnari, Jouko | SDP | 5 565 | 13 226 | ■ | 21 221 | ■ | ■ | SDP-4 | ■ |
| 10. | Salmi, Kari | SDP | 5 105 | 10 580 | | 15 637 | ■ | ■ | | |
| 11. | Autio, Risto | KESK | 4 998 | 19 192 | ■ | 12 557 | – | | KESK-2 | ■ |
| 12. | Lintonen, Minna | SDP | 4 560 | 8 817 | | 11 651 | | | | |
| 13. | Rehula, Juha | KESK | 4 549 | 12 794 | ■ | 11 042 | | | KESK-3 | ■ |
| 14. | Heinonen, Timo | KOK | 4 524 | 11 677 | ■ | 18 142 | ■ | ■ | KOK-4 | ■ |
| 15. | Jokinen, Kalle | KOK | 4 283 | 9 342 | | 16 233 | ■ | ■ | | |
| 16. | Penttilä, Mika | KESK | 4 150 | 9 596 | | 10 166 | | | | |
| 17. | Kiemunki, Iisakki | SDP | 3 594 | 7 557 | | 9 584 | | | | |
| 18. | Taponen, Merja | KESK | 3 551 | 7 677 | | 9 020 | | | | |
| 19. | Kauppila, Matti | VAS | 3 468 | 15 745 | ■ | 12 858 | ■ | ■ | VAS-1 | ■ |
| 20. | Lindqvist, Maija-Liisa | KESK | 3 439 | 6 397 | | 8 654 | | | | |
| 21. | Ojansuu, Kirsi | VIHR | 3 405 | 11 628 | ■ | 12 338 | ■ | ■ | VIHR-1 | ■ |
| 22. | Rautio, Sari | KOK | 3 325 | 7 785 | | 10 455 | | | | |

[1] – District magnitude.
[2] ■ Elected with d'Hondt.
[3] ■ Elected with district-by-district Roinila–d'Hondt.
– Disqualified due to correction of underrepresentation.
[4] ■ Elected with direct-distribution Roinila–d'Hondt.
[5] ■ Elected with Hare-Niemayer.

## Keski-Suomi

| [1] | Candidate | Party | Votes | Distribution figure, district | [2] | Distribution figure, region | [3] | [4] | Quota | [5] |
|---|---|---|---|---|---|---|---|---|---|---|
| 1. | Pekkarinen, Mauri | KESK | 9 102 | 47 058 | ■ | 128 086 | ■ | ■ | KESK-1 | ■ |
| 2. | Huovinen, Susanna | SDP | 8 365 | 34 710 | ■ | 54 018 | ■ | ■ | SDP-1 | ■ |
| 3. | Kalmari, Anne | KESK | 8 266 | 23 529 | ■ | 91 490 | ■ | ■ | KESK-2 | ■ |
| 4. | Virkkunen, Henna | KOK | 6 133 | 21 008 | ■ | 26 819 | ■ | ■ | KOK-1 | ■ |
| 5. | Paloniemi, Aila | KESK | 5 461 | 15 686 | ■ | 16 421 | ■ | ■ | KESK-3 | ■ |
| 6. | Peltonen, Tuula | SDP | 5 382 | 17 355 | ■ | 18 569 | ■ | ■ | SDP-2 | ■ |
| 7. | Kankaanniemi, Toimi | KD | 5 116 | 11 142 | ■ | 26 958 | ■ | ■ | KD-1 | ■ |
| 8. | Laitinen, Reijo | SDP | 5 111 | 11 570 | ■ | 16 505 | ■ | ■ | SDP-3 | ■ |
| 9. | Oinonen, Lauri | KESK | 4 621 | 11 765 | ■ | 11 436 | ■ | ■ | | |
| 10. | Kangas, Matti | VAS | 4 539 | 10 561 | ■ | 18 792 | ■ | ■ | VAS-1 | ■ |
| 11. | Olin, Kalevi | SDP | 3 562 | 8 678 | | 9 432 | | | | |
| 12. | Sorri, Katja | KESK | 3 076 | 9 412 | | 7 907 | | | | |
| 13. | Vielma, Ahti | KOK | 2 969 | 10 504 | | 9 207 | | | | |
| 14. | Mäkinen, Tuija | VIHR | 2 746 | 9 859 | | 10 656 | | | VIHR-1 | ■ |
| 15. | Suomala, Antti | KESK | 2 653 | 7 843 | | 7 116 | | | | |

[1] – District magnitude.
[2] ■ Elected with d'Hondt.
[3] ■ Elected with district-by-district Roinila–d'Hondt.
[4] ■ Elected with direct-distribution Roinila–d'Hondt.
[5] ■ Elected with Hare-Niemayer.

## Kymi

| [1] | Candidate | Party | Votes | Distribution figure, district | [2] | Distribution figure, region | [3] | [4] | Quota | [5] |
|---|---|---|---|---|---|---|---|---|---|---|
| 1. | Kiljunen, Anneli | SDP | 10 770 | 46 556 | ■ | 84 885 | ■ | ■ | SDP-1 | ■ |
| 2. | Häkämies, Jyri | KOK | 7 857 | 39 192 | ■ | 56 076 | ■ | ■ | KOK-1 | ■ |
| 3. | Tiusanen, Pentti | VAS | 6 801 | 11 727 | ■ | 34 899 | ■ | ■ | VAS-1 | ■ |
| 4. | Larikka, Jari | KOK | 6 785 | 19 596 | ■ | 44 060 | ■ | ■ | KOK-2 | ■ |
| 5. | Tiilikainen, Kimmo | KESK | 6 632 | 39 698 | ■ | 33 707 | ■ | ■ | KESK-1 | ■ |
| 6. | Paatero, Sirpa | SDP | 6 176 | 23 278 | ■ | 27 009 | ■ | ■ | SDP-2 | ■ |
| 7. | Laukkanen, Markku | KESK | 5 328 | 19 849 | ■ | 14 894 | ■ | ■ | KESK-2 | ■ |
| 8. | Pakkanen, Markku | KESK | 5 063 | 13 233 | ■ | 13 342 | ■ | | KESK-3 | ■ |
| 9. | Koski, Valto | SDP | 4 922 | 15 519 | ■ | 14 147 | ■ | ■ | SDP-3 | ■ |
| 10. | Hurskainen, Sinikka | SDP | 4 866 | 11 639 | ■ | 13 818 | ■ | ■ | | |
| 11. | Paajanen, Reijo | KOK | 4 486 | 13 064 | ■ | 17 624 | ■ | ■ | KOK-3 | ■ |
| 12. | Lahtela, Seppo | KOK | 4 371 | 9 798 | | 16 671 | ■ | ■ | | |
| 13. | Kuosmanen, Pekka | KOK | 3 942 | 7 838 | | 13 124 | | ■ | | |
| 14. | Torniainen, Ari | KESK | 3 903 | 9 925 | | 9 559 | | | | |
| … | | | | | | | | | | |
| 19. | Palm, Sari | KD | 1 749 | 11 012 | ■ | 8 424 | | | KD-1 | ■ |
| … | | | | | | | | | | |
| 22. | Purho, Hannu | PS | 1 439 | 8 899 | | 9 355 | | | PS-1 | ■ |

[1] – District magnitude.
[2] ■ Elected with d'Hondt.
[3] ■ Elected with district-by-district Roinila–d'Hondt.
[4] ■ Elected with direct-distribution Roinila–d'Hondt.
[5] ■ Elected with Hare-Niemayer.

## Lappi

| [1] | Candidate | Party | Votes | Distribution figure, district | [2] | Distribution figure, region | [3] | [4] | Quota | [5] |
|---|---|---|---|---|---|---|---|---|---|---|
| 1. | Väyrynen, Paavo | KESK | 10 944 | 42 712 | ■ | 160 107 | ■ | ■ | KESK-1 | ■ |
| 2. | Tennilä, Esko-Juhani | VAS | 7 739 | 22 353 | ■ | 81 432 | ■ | ■ | VAS-1 | ■ |
| 3. | Mustajärvi, Markus | VAS | 7 675 | 11 177 | ■ | 61 074 | ■ | ■ | VAS-2 | ■ |
| 4. | Ojala-Niemelä, Johanna | SDP | 6 252 | 14 595 | ■ | 29 710 | ■ | ■ | SDP-1 | ■ |
| 5. | Manninen, Hannes | KESK | 5 548 | 21 356 | ■ | 17 309 | ■ | ■ | KESK-2 | ■ |
| 6. | Seurujärvi, Janne | KESK | 5 341 | 14 237 | ■ | 15 248 | | | KESK-3 | ■ |
| 7. | Rask, Maija | SDP | 5 106 | 7 298 | | 16 059 | ■ | ■ | | |
| 8. | Rundgren, Simo | KESK | 4 967 | 10 678 | | 12 316 | | | | |
| 9. | Karvo, Ulla | KOK | 4 634 | 14 629 | ■ | 19 898 | ■ | ■ | KOK-1 | ■ |
| 10. | Karvonen, Tatja | KESK | 4 022 | 8 542 | | 9 853 | | | | |
| 11. | Ruotsalainen, Ari | KESK | 3 476 | 7 119 | | 8 773 | | | | |
| 12. | Törmänen, Timo | VIHR | 3 065 | 7 315 | | 11 721 | | | | |
| 13. | Autto, Heikki | KOK | 2 450 | 4 876 | | 7 808 | | | | |
| 14. | Nivala, Heikki | KESK | 2 328 | 6 102 | | 6 341 | | | | |
| 15. | Viitala, Susanna | KESK | 1 935 | 5 339 | | 6 042 | | | | |

[1] – District magnitude.
[2] ■ Elected with d'Hondt.
[3] ■ Elected with district-by-district Roinila–d'Hondt.
[4] ■ Elected with direct-distribution Roinila–d'Hondt.
[5] ■ Elected with Hare-Niemayer.

## Oulu

| [1] | Candidate | Party | Votes | Distribution figure, district | [2] | Distribution figure, region | [3] | [4] | Quota | [5] |
|---|---|---|---|---|---|---|---|---|---|---|
| 1. | Lehtomäki, Paula | KESK | 16 390 | 98 813 | ■ | 320 214 | ■ | ■ | KESK-1 | ■ |
| 2. | Tölli, Tapani | KESK | 8 458 | 49 407 | ■ | 106 738 | ■ | ■ | KESK-2 | ■ |
| 3. | Korhonen, Martti | VAS | 8 234 | 36 987 | ■ | 122 148 | ■ | ■ | VAS-1 | ■ |
| 4. | Kyllönen, Merja | VAS | 7 019 | 18 494 | ■ | 48 859 | ■ | ■ | VAS-2 | ■ |
| 5. | Vehkaperä, Mirja | KESK | 6 933 | 32 938 | ■ | 40 027 | ■ | ■ | KESK-3 | ■ |
| 6. | Kerola, Inkeri | KESK | 6 431 | 24 703 | ■ | 32 021 | ■ | ■ | KESK-4 | ■ |
| 7. | Karjula, Kyösti | KESK | 6 016 | 19 763 | ■ | 26 685 | ■ | ■ | KESK-5 | ■ |
| 8. | Rantakangas, Antti | KESK | 5 933 | 16 469 | ■ | 23 720 | ■ | ■ | KESK-6 | ■ |
| 9. | Hänninen, Tuomo | KESK | 5 851 | 14 116 | ■ | 22 084 | ■ | ■ | KESK-7 | ■ |
| 10. | Korhonen, Timo | KESK | 5 597 | 12 352 | ■ | 17 790 | ■ | ■ | KESK-8 | ■ |
| 11. | Vilkuna, Pekka | KESK | 5 450 | 10 979 | ■ | 16 011 | ■ | ■ | | |
| 12. | Moilanen-Savolainen, Riikka | KESK | 5 381 | 9 881 | | 15 620 | ■ | ■ | | |
| 13. | Valpas, Unto | VAS | 5 299 | 12 329 | ■ | 24 430 | ■ | ■ | VAS-3 | ■ |
| 14. | Jaakonsaari, Liisa | SDP | 5 003 | 29 295 | ■ | 14 493 | – | | SDP-1 | ■ |
| 15. | Harju, Pauli | KESK | 4 846 | 8 983 | | 11 860 | | | | |
| 16. | Ahde, Matti | SDP | 4 783 | 14 648 | ■ | 13 204 | | | SDP-2 | ■ |
| 17. | Kalliorinne, Risto | VAS | 4 565 | 9 247 | | 20 358 | ■ | ■ | | |
| 18. | Lindén, Suvi | KOK | 4 131 | 31 987 | ■ | 15 045 | ■ | ■ | KOK-1 | ■ |
| 19. | Ukkola, Tuulikki | KOK | 4 069 | 15 994 | ■ | 14 345 | | ■ | KOK-2 | ■ |
| 20. | Rajala, Lyly | KOK | 4 019 | 10 662 | ■ | 13 708 | | | | |
| 21. | Koski, Markku | KESK | 3 960 | 8 234 | | 9 703 | | | | |
| 22. | Pulliainen, Erkki | VIHR | 3 945 | 14 102 | ■ | 15 629 | ■ | ■ | VIHR-1 | ■ |
| 23. | Rinta-Jouppi, Meeri | KESK | 3 795 | 7 601 | | 9 282 | | | | |
| 24. | Haapanen, Satu | VIHR | 3 535 | 7 051 | | 13 024 | ■ | | | |
| 25. | Oikarinen, Kyösti | KESK | 3 533 | 7 058 | | 8 895 | | | | |
| 26. | Piirainen, Raimo | SDP | 3 468 | 9 765 | | 9 141 | | | | |
| 27. | Kemppainen, Marja-Leena | KD | 3 434 | 7 713 | | 16 849 | ■ | ■ | KD-1 | ■ |
| 28. | Kippola, Eero | SDP | 3 379 | 7 324 | | 9 003 | | | | |
| … | | | | | | | | | | |
| 45. | Kettunen, Pentti | PS | 1 276 | 9 281 | | 8 635 | | | PS-1 | ■ |

[1] – District magnitude.
[2] ■ Elected with d'Hondt.
[3] ■ Elected with district-by-district Roinila–d'Hondt.
– Disqualified due to correction of underrepresentation.
[4] ■ Elected with direct-distribution Roinila–d'Hondt.
[5] ■ Elected with Hare-Niemayer.

**Pirkanmaa**

| [1] | Candidate | Party | Votes | Distribution figure, district | [2] | Distribution figure, region | [3] | [4] | Quota | [5] |
|---|---|---|---|---|---|---|---|---|---|---|
| 1. | Tiura, Marja | KOK | 17 578 | 63 399 | ■ | 205 614 | ■ | ■ | KOK-1 | ■ |
| 2. | Karhu, Saara | SDP | 11 477 | 60 160 | ■ | 198 065 | ■ | ■ | SDP-1 | ■ |
| 3. | Viitanen, Pia | SDP | 9 752 | 30 080 | ■ | 74 274 | ■ | ■ | SDP-2 | ■ |
| 4. | Tynkkynen, Oras | VIHR | 7 930 | 22 056 | ■ | 78 143 | ■ | ■ | VIHR-1 | ■ |
| 5. | Gustafsson, Jukka | SDP | 7 057 | 20 053 | ■ | 37 137 | ■ | ■ | SDP-3 | ■ |
| 6. | Satonen, Arto | KOK | 6 678 | 31 700 | ■ | 38 553 | ■ | ■ | KOK-2 | ■ |
| 7. | Sasi, Kimmo | KOK | 6 505 | 21 133 | ■ | 36 285 | ■ | ■ | KOK-3 | ■ |
| 8. | Salovaara, Pertti | KESK | 6 350 | 41 126 | ■ | 30 497 | ■ | ■ | KESK-1 | ■ |
| 9. | Koskela, Laila | SSP | 5 761 | 7 812 | | 16 715 | ■ | ■ | | |
| 10. | Alatalo, Mikko | KESK | 5 646 | 20 563 | ■ | 18 836 | ■ | ■ | KESK-2 | ■ |
| 11. | Kuoppa, Mikko | VAS | 5 324 | 24 304 | ■ | 27 144 | ■ | ■ | VAS-1 | ■ |
| 12. | Sirnö, Minna | VAS | 5 093 | 12 152 | ■ | 22 209 | ■ | ■ | VAS-2 | ■ |
| 13. | Jaskari, Harri | KOK | 4 812 | 15 850 | ■ | 21 270 | ■ | ■ | KOK-4 | ■ |
| 14. | Rönni, Tero | SDP | 4 665 | 15 040 | ■ | 12 126 | ■ | | SDP-4 | ■ |
| 15. | Asell, Marko | SDP | 4 590 | 12 032 | ■ | 11 884 | – | | | |
| 16. | Pentti, Klaus | KESK | 4 565 | 13 709 | ■ | 11 236 | | ■ | KESK-3 | ■ |
| 17. | Pirttilahti, Arto | KESK | 4 300 | 10 282 | | 10 674 | | | | |
| 18. | Rauhala, Leena | KD | 4 197 | 15 681 | ■ | 19 256 | ■ | ■ | KD-1 | ■ |
| 19. | Virtanen, Pertti ”Veltto” | PS | 4 124 | 12 683 | ■ | 22 451 | ■ | ■ | PS-1 | ■ |
| 20. | Lamminmäki, Ari | KESK | 3 891 | 8 225 | | 9 418 | | | | |
| 21. | Ollila, Heikki A. | KOK | 3 869 | 12 680 | ■ | 12 337 | ■ | ■ | KOK-5 | ■ |
| 22. | Lepistö, Joonas | SDP | 3 770 | 10 027 | | 9 741 | | | | |
| 23. | Telemäki, Satu | KOK | 3 369 | 10 567 | | 10 822 | | | | |
| 24. | Koskinen, Riitta | KOK | 3 309 | 9 057 | | 10 281 | | | | |
| 25. | Mäkipää, Lea | PS | 3 250 | 6 342 | | 18 709 | ■ | ■ | | |
| … | | | | | | | | | | |
| 29. | Aarnio, Ulriikka | VIHR | 2 782 | 11 028 | | 11 163 | ■ | ■ | VIHR-2 | ■ |
| 30. | Heikkilä, Jari | VAS | 2 518 | 6 076 | | 8 725 | | | | |

[1] – District magnitude.
[2] ■ Elected with d’Hondt.
[3] ■ Elected with district-by-district Roinila–d’Hondt.
– Disqualified due to correction of underrepresentation.
■ Disqualified due to legal threshold.
[4] ■ Elected with direct-distribution Roinila–d’Hondt.
■ Disqualified due to legal threshold.
[5] ■ Elected with Hare-Niemayer.

## Pohjois-Karjala

| [1] | Candidate | Party | Votes | Distribution figure, district | [2] | Distribution figure, region | [3] | [4] | Quota | [5] |
|---|---|---|---|---|---|---|---|---|---|---|
| 1. | Lahtela, Esa | SDP | 10 813 | 29 105 | ■ | 99 032 | ■ | ■ | SDP-1 | ■ |
| 2. | Cronberg, Tarja | VIHR | 7 804 | 9 955 | | 58 607 | ■ | ■ | VIHR-1 | ■ |
| 3. | Vehviläinen, Anu | KESK | 6 789 | 30 391 | ■ | 35 579 | ■ | ■ | KESK-1 | ■ |
| 4. | Hoskonen, Hannu | KESK | 5 982 | 15 196 | ■ | 25 617 | ■ | ■ | KESK-2 | ■ |
| 5. | Reijonen, Eero | KESK | 5 021 | 10 130 | ■ | 12 809 | | | | |
| 6. | Ravi, Pekka | KOK | 4 589 | 15 043 | ■ | 18 692 | ■ | ■ | KOK-1 | ■ |
| 7. | Kämäräinen, Matti | KESK | 4 534 | 7 598 | | 10 855 | | | | |
| 8. | Kähkönen, Lauri | SDP | 4 391 | 14 553 | ■ | 11 211 | | | SDP-2 | ■ |
| 9. | Tahvanainen, Säde | SDP | 3 359 | 9 702 | | 8 869 | | | | |
| … | | | | | | | | | | |
| 14. | Leppänen, Urpo | PS | 1 975 | 3 761 | | 14 032 | ■ | ■ | | |

[1] – District magnitude.
[2] ■ Elected with d'Hondt.
[3] ■ Elected with district-by-district Roinila–d'Hondt.
[4] ■ Elected with direct-distribution Roinila–d'Hondt.
[5] ■ Elected with Hare-Niemayer.

## Pohjois-Savo

| [1] | Candidate | Party | Votes | Distribution figure, district | [2] | Distribution figure, region | [3] | [4] | Quota | [5] |
|---|---|---|---|---|---|---|---|---|---|---|
| 1. | Katainen, Jyrki | KOK | 10 806 | 26 030 | ■ | 123 368 | ■ | ■ | KOK-1 | ■ |
| 2. | Rajamäki, Kari | SDP | 7 850 | 24 760 | ■ | 49 516 | ■ | ■ | SDP-1 | ■ |
| 3. | Kääriäinen, Seppo | KESK | 7 629 | 45 607 | ■ | 71 159 | ■ | ■ | KESK-1 | ■ |
| 4. | Heikkinen, Hannakaisa | KESK | 7 083 | 22 804 | ■ | 42 695 | ■ | ■ | KESK-2 | ■ |
| 5. | Kärkkäinen, Kari | KD | 5 778 | 10 316 | ■ | 33 698 | ■ | ■ | KD-1 | ■ |
| 6. | Katainen, Elsi | KESK | 5 683 | 15 202 | ■ | 19 407 | ■ | ■ | KESK-3 | ■ |
| 7. | Väätäinen, Tuula | SDP | 5 018 | 12 380 | ■ | 14 855 | ■ | ■ | SDP-2 | ■ |
| 8. | Oinonen, Pentti Juhani | PS | 4 334 | 13 015 | ■ | 28 064 | ■ | ■ | | |
| 9. | Rossi, Markku | KESK | 4 233 | 11 402 | ■ | 10 329 | ■ | | KESK-4 | ■ |
| 10. | Kettunen, Rauno | KESK | 4 093 | 9 121 | | 10 007 | | | | |
| 11. | Virtanen, Erkki | VAS | 3 808 | 19 326 | ■ | 14 370 | ■ | ■ | VAS-1 | ■ |
| 12. | Martikainen, Ossi | KESK | 3 565 | 7 601 | | 9 149 | | | | |
| 13. | Lämsä, Eero | KESK | 3 226 | 6 515 | | 8 317 | | | | |
| 14. | Pakarinen, Riikka | KESK | 3 186 | 5 701 | | 8 211 | | | | |
| 15. | Semi, Matti | VAS | 2 958 | 9 663 | | 9 772 | | | | |
| 16. | Eestilä, Markku | KOK | 2 648 | 8 677 | | 8 225 | | ■ | KOK-2 | ■ |
| 17. | Haring, Kari | VAS | 2 599 | 6 442 | | 9 048 | | | | |

[1] – District magnitude.
[2] ■ Elected with d'Hondt.
[3] ■ Elected with district-by-district Roinila–d'Hondt.
[4] ■ Elected with direct-distribution Roinila–d'Hondt.
[5] ■ Elected with Hare-Niemayer.

## Satakunta

| [1] | Candidate | Party | Votes | Distribution figure, district | [2] | Distribution figure, region | [3] | [4] | Quota | [5] |
|---|---|---|---|---|---|---|---|---|---|---|
| 1. | Kataja, Sampsa | KOK | 8 463 | 26 395 | ■ | 61 684 | ■ | ■ | KOK-1 | ■ |
| 2. | Kalli, Timo | KESK | 5 836 | 30 377 | ■ | 21 348 | ■ | ■ | KESK-1 | ■ |
| 3. | Kaltiokumpu, Oiva | KESK | 5 611 | 15 189 | ■ | 18 298 | ■ | ■ | KESK-2 | ■ |
| 4. | Kiuru, Krista | SDP | 5 560 | 36 232 | ■ | 20 489 | ■ | ■ | SDP-1 | ■ |
| 5. | Kallio, Reijo | SDP | 5 400 | 18 116 | ■ | 19 168 | ■ | ■ | SDP-2 | ■ |
| 6. | Korkeaoja, Juha | KESK | 5 316 | 10 126 | ■ | 14 555 | ■ | ■ | | |
| 7. | Vuolanne, Antti | SDP | 5 182 | 12 077 | ■ | 17 476 | ■ | ■ | SDP-3 | ■ |
| 8. | Juhantalo, Kauko | KESK | 5 054 | 7 594 | | 13 070 | – | | | |
| 9. | Joutsenlahti, Anssi | PS | 4 912 | 9 579 | | 37 419 | ■ | ■ | PS-1 | ■ |
| 10. | Eskanen, Heli | SDP | 4 416 | 9 058 | | 11 427 | | | | |
| 11. | Holmlund, Anne | KOK | 3 896 | 13 198 | ■ | 12 589 | | | KOK-2 | ■ |
| 12. | Lehtonen, Harri | SDP | 3 332 | 7 246 | | 8 738 | | | | |
| 13. | Puhjo, Veijo | VAS | 3 271 | 14 815 | ■ | 12 215 | ■ | ■ | VAS-1 | ■ |
| 14. | Salonen, Kristiina | SDP | 3 152 | 6 039 | | 8 369 | | | | |

[1] – District magnitude.
[2] ■ Elected with d'Hondt.
[3] ■ Elected with district-by-district Roinila–d'Hondt.
– Disqualified due to correction of underrepresentation.
[4] ■ Elected with direct-distribution Roinila–d'Hondt.
[5] ■ Elected with Hare-Niemayer.

## Uusimaa

| 1 | Candidate | Party | Votes | Distribution figure, district | 2 | Distribution figure, region | 3 | 4 | Quota | 5 |
|---|---|---|---|---|---|---|---|---|---|---|
| 1. | Niinistö, Sauli | KOK | 60 563 | 133 885 | ■ | 616 841 | ■ | ■ | KOK-1 | ■ |
| 2. | Vanhanen, Matti | KESK | 24 112 | 57 609 | ■ | 640 428 | ■ | ■ | KESK-1 | ■ |
| 3. | Soini, Timo | PS | 19 859 | 28 593 | ■ | 112 256 | ■ | ■ | PS-1 | ■ |
| 4. | Hautala, Heidi | VIHR | 12 924 | 50 718 | ■ | 234 429 | ■ | ■ | VIHR-1 | ■ |
| 5. | Guzenina-Richardson, Maria | SDP | 12 578 | 94 215 | ■ | 297 097 | ■ | ■ | SDP-1 | ■ |
| 6. | Andersson, Claes | VAS | 9 390 | 31 324 | ■ | 244 296 | ■ | ■ | VAS-1 | ■ |
| 7. | Kalliomäki, Antti | SDP | 9 234 | 47 108 | ■ | 66 022 | ■ | ■ | SDP-2 | ■ |
| 8. | Blomqvist, Thomas | RKP | 7 280 | 44 418 | ■ | 42 173 | ■ | ■ | RKP-1 | ■ |
| 9. | Gestrin, Christina | RKP | 6 402 | 22 209 | ■ | 25 304 | ■ | ■ | RKP-2 | ■ |
| 10. | Matikainen-Kallström, Marjo | KOK | 6 249 | 66 943 | ■ | 29 373 | ■ | ■ | KOK-2 | ■ |
| 11. | Feldt-Ranta, Maarit | SDP | 5 949 | 31 405 | ■ | 23 768 | ■ | ■ | SDP-3 | ■ |
| 12. | Kiljunen, Kimmo | SDP | 5 940 | 23 554 | ■ | 22 854 | ■ | ■ | SDP-4 | ■ |
| 13. | Mäkelä, Outi | KOK | 5 808 | 44 628 | ■ | 24 674 | ■ | ■ | KOK-3 | ■ |
| 14. | Saarela, Tanja | KESK | 5 712 | 28 805 | ■ | 20 013 | ■ | ■ | KESK-2 | ■ |
| 15. | Saarinen, Matti | SDP | 5 430 | 18 843 | ■ | 19 806 | ■ | ■ | SDP-5 | ■ |
| 16. | Vahasalo, Raija | KOK | 5 296 | 33 471 | ■ | 22 846 | ■ | ■ | KOK-4 | ■ |
| 17. | Kuusisto, Merja | SDP | 5 130 | 15 703 | ■ | 16 977 | ■ | ■ | SDP-6 | ■ |
| 18. | Kasvi, Jyrki | VIHR | 4 880 | 25 359 | ■ | 21 312 | ■ | ■ | VIHR-2 | ■ |
| 19. | Nylander, Mikaela | RKP | 4 825 | 14 806 | ■ | 15 815 | ■ | ■ | RKP-3 | ■ |
| 20. | Tabermann, Tommy | SDP | 4 814 | 13 459 | ■ | 13 504 | ■ | ■ | SDP-7 | ■ |
| 21. | Kuisma, Risto | SDP | 4 765 | 11 777 | | 12 917 | ■ | ■ | | |
| 22. | Mäkinen, Tapani | KOK | 4 450 | 26 777 | ■ | 17 134 | ■ | ■ | KOK-5 | ■ |
| 23. | Liljeström, Christel | RKP | 4 403 | 11 105 | | 10 543 | ■ | ■ | | |
| 24. | Tallqvist, Tarja | KD | 4 391 | 19 157 | ■ | 22 465 | ■ | ■ | KD-1 | ■ |
| 25. | Kaikkonen, Antti | KESK | 4 263 | 19 203 | ■ | 10 499 | – | ■ | KESK-3 | ■ |
| 26. | Hemming, Hanna-Leena | KOK | 4 203 | 22 314 | ■ | 15 421 | ■ | ■ | KOK-6 | ■ |
| 27. | Harkimo, Leena | KOK | 4 074 | 19 126 | ■ | 14 687 | ■ | ■ | KOK-7 | ■ |
| 28. | Akaan-Penttilä, Eero | KOK | 3 985 | 16 736 | ■ | 13 410 | ■ | ■ | KOK-8 | ■ |
| 29. | Rahkonen, Susanna | SDP | 3 895 | 10 468 | | 10 245 | | ■ | | |
| 30. | Mäkelä, Jukka | KOK | 3 564 | 14 876 | ■ | 11 215 | ■ | ■ | KOK-9 | ■ |
| 31. | Lauslahti, Sanna | KOK | 3 544 | 13 389 | ■ | 11 015 | ■ | | KOK-10 | ■ |
| 32. | Johansson, Ulf | RKP | 3 474 | 8 884 | | 9 037 | ■ | | | |
| 33. | Lehti, Eero | KOK | 3 215 | 12 171 | ■ | 9 949 | | | | |
| 34. | Laakso, Jaakko | VAS | 3 074 | 15 662 | ■ | 11 104 | ■ | ■ | VAS-2 | ■ |
| 35. | Uotila, Kari | VAS | 2 975 | 10 441 | | 10 622 | – | | | |
| 36. | Tani, Sari | SDP | 2 863 | 9 422 | | 8 140 | | | | |
| 37. | Uusipaavalniemi, Markku | KESK | 2 817 | 14 402 | ■ | 7 447 | | | KESK-4 | ■ |
| … | | | | | | | | | | |
| 41. | Laukkanen, Antero | KD | 2 681 | 9 579 | | 13 479 | ■ | ■ | KD-2 | ■ |
| 42. | Jalonen, Jaakko | SDP | 2 667 | 7 851 | | 7 521 | | | | |
| 43. | Karimäki, Johanna | VIHR | 2 659 | 16 906 | ■ | 10 193 | | | VIHR-3 | ■ |
| 44. | Salo, Salla | VAS | 2 603 | 7 831 | | 9 396 | | | | |
| 45. | Forsius, Merikukka | VIHR | 2 479 | 12 680 | ■ | 9 768 | | | VIHR-4 | ■ |
| 46. | Luhtanen, Leena | SDP | 2 444 | 7 247 | | 6 909 | | | | |
| 47. | Kokko, Annika | KD | 2 435 | 6 386 | | 10 368 | ■ | ■ | | |
| … | | | | | | | | | | |
| 93. | Ruohonen-Lerner, Pirkko | PS | 1 058 | 14 297 | ■ | 7 016 | ■ | ■ | PS-2 | ■ |

1 – District magnitude.
2 ■ Elected with d'Hondt.
3 ■ Elected with district-by-district Roinila–d'Hondt.
– Disqualified due to correction of underrepresentation.
4 ■ Elected with direct-distribution Roinila–d'Hondt.
5 ■ Elected with Hare-Niemayer.

**Vaasa**

| [1] | Candidate | Party | Votes | Distribution figure, district | [2] | Distribution figure, region | [3] | [4] | Quota | [5] |
|---|---|---|---|---|---|---|---|---|---|---|
| 1. | Mieto, Juha | KESK | 13 768 | 78 523 | ■ | 213 476 | ■ | ■ | KESK-1 | ■ |
| 2. | Risikko, Paula | KOK | 9 265 | 34 101 | ■ | 102 807 | ■ | ■ | KOK-1 | ■ |
| 3. | Wideroos, Ulla-Maj | RKP | 9 141 | 49 839 | ■ | 63 260 | ■ | ■ | RKP-1 | ■ |
| 4. | Vistbacka, Raimo | PS | 8 046 | 15 646 | ■ | 56 128 | ■ | ■ | PS-1 | ■ |
| 5. | Kallis, Bjarne | KD | 7 821 | 16 919 | ■ | 67 395 | ■ | ■ | KD-1 | ■ |
| 6. | Lintilä, Mika | KESK | 7 697 | 39 262 | ■ | 80 054 | ■ | ■ | KESK-2 | ■ |
| 7. | Puumala, Tuomo | KESK | 7 335 | 26 174 | ■ | 58 221 | ■ | ■ | KESK-3 | ■ |
| 8. | Sihto, Paula | KESK | 7 313 | 19 631 | ■ | 53 369 | ■ | ■ | KESK-4 | ■ |
| 9. | Kumpula-Natri, Miapetra | SDP | 7 285 | 30 720 | ■ | 42 442 | ■ | ■ | SDP-1 | ■ |
| 10. | Haapoja, Susanna | KESK | 7 263 | 15 705 | ■ | 49 264 | ■ | ■ | KESK-5 | ■ |
| 11. | Urpilainen, Jutta | SDP | 7 244 | 15 360 | ■ | 39 613 | ■ | ■ | SDP-2 | ■ |
| 12. | Nylund, Mats | RKP | 7 084 | 24 920 | ■ | 31 630 | ■ | ■ | RKP-2 | ■ |
| 13. | Salo, Petri | KOK | 6 344 | 17 051 | ■ | 34 269 | ■ | ■ | KOK-2 | ■ |
| 14. | Wallin, Harry | SDP | 6 027 | 10 240 | | 25 835 | ■ | ■ | | |
| 15. | Ahonen, Esko | KESK | 5 974 | 13 087 | ■ | 24 632 | ■ | ■ | KESK-6 | ■ |
| 16. | Hautala, Lasse | KESK | 5 509 | 11 218 | | 16 853 | ■ | ■ | | |
| 17. | Nordman, Håkan | RKP | 5 430 | 16 613 | ■ | 18 074 | ■ | ■ | RKP-3 | ■ |
| 18. | Savola, Mikko | KESK | 5 281 | 9 815 | | 14 232 | | | | |
| 19. | Vihriälä, Jukka | KESK | 5 153 | 8 725 | | 13 626 | | | | |
| 20. | Ranta-Muotio, Aulis | KESK | 4 824 | 7 852 | | 11 644 | | | | |
| 21. | Henriksson, Anna-Maja | RKP | 4 600 | 12 460 | ■ | 14 058 | | | RKP-4 | ■ |
| 22. | Nygård-Fagerudd, Wivan | RKP | 4 484 | 9 968 | | 12 652 | | | | |
| 23. | Gästgivars, Lars | RKP | 4 455 | 8 307 | | 11 502 | | | | |
| 24. | Löv, Pehr | RKP | 3 928 | 7 120 | | 9 732 | | | | |
| 25. | Moisio, Harri | VAS | 3 636 | 11 342 | | 13 572 | | | VAS-1 | ■ |
| 26. | Luther, Michael | RKP | 3 200 | 6 230 | | 8 435 | | | | |
| 27. | Pihlajaniemi, Petri | KOK | 3 091 | 11 367 | ■ | 9 791 | | | | |
| 28. | Sankelo, Janne | KOK | 3 082 | 8 525 | | 9 490 | | | | |
| 29. | Snellman, Gerhard | KD | 2 847 | 8 460 | | 14 977 | | | | |
| 30. | Sjölund, Richard | SDP | 2 492 | 7 680 | | 7 074 | | | | |

[1] – District magnitude.
[2] ■ Elected with d'Hondt.
[3] ■ Elected with district-by-district Roinila–d'Hondt.
[4] ■ Elected with direct-distribution Roinila–d'Hondt.
[5] ■ Elected with Hare-Niemayer.

## Varsinais-Suomi

| 1 | Candidate | Party | Votes | Distribution figure, district | 2 | Distribution figure, region | 3 | 4 | Quota | 5 |
|---|---|---|---|---|---|---|---|---|---|---|
| 1. | Wallin, Stefan | RKP | 12 097 | 51 979 | ■ | 126 520 | ■ | ■ | RKP-1 | ■ |
| 2. | Paasio, Heli | SDP | 11 233 | 53 281 | ■ | 148 549 | ■ | ■ | SDP-1 | ■ |
| 3. | Kanerva, Ilkka | KOK | 11 079 | 66 793 | ■ | 154 210 | ■ | ■ | KOK-1 | ■ |
| 4. | Essayah, Sari | KD | 7 734 | 11 377 | | 44 930 | ■ | ■ | KD-1 | ■ |
| 5. | Koskinen, Marjaana | SDP | 7 649 | 26 641 | ■ | 45 707 | ■ | ■ | SDP-2 | ■ |
| 6. | Kaunisto, Timo | KESK | 7 213 | 25 990 | ■ | 45 745 | ■ | ■ | KESK-1 | ■ |
| 7. | Virolainen, Anne-Mari | KOK | 6 812 | 33 397 | ■ | 47 449 | ■ | ■ | KOK-2 | ■ |
| 8. | Kiviranta, Esko | KESK | 6 210 | 17 326 | ■ | 29 110 | ■ | ■ | KESK-2 | ■ |
| 9. | Hemmilä, Pertti | KOK | 6 188 | 22 264 | ■ | 28 038 | ■ | ■ | KOK-3 | ■ |
| 10. | Hyssälä, Liisa | KESK | 6 152 | 12 995 | ■ | 27 845 | ■ | ■ | KESK-3 | ■ |
| 11. | Orpo, Petteri | KOK | 6 069 | 16 698 | ■ | 25 702 | ■ | ■ | KOK-4 | ■ |
| 12. | Taimela, Katja | SDP | 5 984 | 17 760 | ■ | 24 758 | ■ | ■ | SDP-3 | ■ |
| 13. | Andersson, Janina | VIHR | 5 587 | 22 868 | ■ | 39 072 | ■ | ■ | VIHR-1 | ■ |
| 14. | Lapintie, Annika | VAS | 5 575 | 25 937 | ■ | 30 537 | ■ | ■ | VAS-1 | ■ |
| 15. | Niinistö, Ville | VIHR | 5 182 | 11 434 | ■ | 26 048 | ■ | ■ | | |
| 16. | Kantola, Ilkka | SDP | 5 091 | 13 320 | ■ | 15 236 | | | SDP-4 | ■ |
| 17. | Laxell, Jouko | KOK | 5 056 | 13 359 | ■ | 22 030 | ■ | ■ | KOK-5 | ■ |
| 18. | Salo, Mauri | KESK | 4 877 | 10 396 | | 12 084 | | | | |
| 19. | Puisto, Virpa | SDP | 4 743 | 10 656 | | 12 642 | | | | |
| 20. | Lehtinen, Seppo | SDP | 4 716 | 8 880 | | 12 379 | | | | |
| 21. | Huovinen, Pentti | KOK | 4 700 | 11 132 | | 20 561 | ■ | ■ | | |
| 22. | Perho, Maija | KOK | 4 602 | 9 542 | | 19 276 | | | | |
| 23. | Yrttiaho, Jyrki | VAS | 4 492 | 12 969 | ■ | 17 450 | | | VAS-2 | ■ |
| 24. | Immonen, Mikko | VAS | 4 113 | 8 646 | | 16 286 | | | | |
| 25. | Helminen, Sari | SDP | 3 962 | 7 612 | | 10 804 | | | | |

1 – District magnitude.
2 ■ Elected with d'Hondt.
3 ■ Elected with district-by-district Roinila–d'Hondt.
4 ■ Elected with direct-distribution Roinila–d'Hondt.
5 ■ Elected with Hare-Niemayer.

## Appendix B. Party vote and seat shares by district[103]

### Etelä-Savo

**D'Hondt method**

| Party | Votes | Votes, % | Seats | Seats, % |
|---|---|---|---|---|
| KESK | 30 759 | 37,4 | 2 | 33,3 |
| SDP | 22 704 | 27,6 | 1 | 16,7 |
| KOK | 15 530 | 18,9 | 2 | 33,3 |
| VIHR | 5 714 | 6,9 | 1 | 16,7 |
| KD | 2 925 | 3,6 | 0 | 0,0 |
| PS | 2 653 | 3,2 | 0 | 0,0 |
| VAS | 1 419 | 1,7 | 0 | 0,0 |
| SKP | 307 | 0,4 | 0 | 0,0 |
| ITSP | 149 | 0,2 | 0 | 0,0 |
| KTP | 40 | 0,0 | 0 | 0,0 |
| STP | 35 | 0,0 | 0 | 0,0 |

**District-by-district Roinila–d'Hondt method**

| Party | Votes | Votes, % | Seats | Seats, % |
|---|---|---|---|---|
| KESK | 30 759 | 37,4 | 2 | 33,3 |
| SDP | 22 704 | 27,6 | 2 | 33,3 |
| KOK | 15 530 | 18,9 | 0 | 0,0 |
| VIHR | 5 714 | 6,9 | 1 | 16,7 |
| KD | 2 925 | 3,6 | 0 | 0,0 |
| PS | 2 653 | 3,2 | 1 | 16,7 |
| VAS | 1 419 | 1,7 | 0 | 0,0 |
| SKP | 307 | 0,4 | 0 | 0,0 |
| ITSP | 149 | 0,2 | 0 | 0,0 |
| KTP | 40 | 0,0 | 0 | 0,0 |
| STP | 35 | 0,0 | 0 | 0,0 |

**Direct-distribution Roinila–d'Hondt method**

| Party | Votes | Votes, % | Seats | Seats, % |
|---|---|---|---|---|
| KESK | 30 759 | 37,4 | 2 | 33,3 |
| SDP | 22 704 | 27,6 | 2 | 33,3 |
| KOK | 15 530 | 18,9 | 1 | 16,7 |
| VIHR | 5 714 | 6,9 | 1 | 16,7 |
| KD | 2 925 | 3,6 | 0 | 0,0 |
| PS | 2 653 | 3,2 | 0 | 0,0 |
| VAS | 1 419 | 1,7 | 0 | 0,0 |
| SKP | 307 | 0,4 | 0 | 0,0 |
| ITSP | 149 | 0,2 | 0 | 0,0 |
| KTP | 40 | 0,0 | 0 | 0,0 |
| STP | 35 | 0,0 | 0 | 0,0 |

**D'Hondt & Hare–Niemayer method**

| Party | Votes | Votes, % | Seats | Seats, % |
|---|---|---|---|---|
| KESK | 30 759 | 37,4 | 2 | 33,3 |
| SDP | 22 704 | 27,6 | 2 | 33,3 |
| KOK | 15 530 | 18,9 | 1 | 16,7 |
| VIHR | 5 714 | 6,9 | 1 | 16,7 |
| KD | 2 925 | 3,6 | 0 | 0,0 |
| PS | 2 653 | 3,2 | 0 | 0,0 |
| VAS | 1 419 | 1,7 | 0 | 0,0 |
| SKP | 307 | 0,4 | 0 | 0,0 |
| ITSP | 149 | 0,2 | 0 | 0,0 |
| KTP | 40 | 0,0 | 0 | 0,0 |
| STP | 35 | 0,0 | 0 | 0,0 |

[103] All tables modified from originals produced by Yle (Yle 2007b).

## Helsinki

### D'Hondt method

| Party | Votes | Votes, % | Seats | Seats, % |
|---|---|---|---|---|
| KOK | 94 581 | 30,0 | 8 | 38,1 |
| SDP | 67 122 | 21,3 | 5 | 23,8 |
| VIHR | 63 440 | 20,1 | 5 | 23,8 |
| KESK | 21 703 | 6,9 | 1 | 4,8 |
| VAS | 21 366 | 6,8 | 1 | 4,8 |
| RKP | 18 894 | 6,0 | 1 | 4,8 |
| PS | 9 188 | 2,9 | 0 | 0,0 |
| KD | 7 903 | 2,5 | 0 | 0,0 |
| SKP | 4 495 | 1,4 | 0 | 0,0 |
| SSP | 2 355 | 0,7 | 0 | 0,0 |
| LIB | 1 416 | 0,4 | 0 | 0,0 |
| KÖY | 893 | 0,3 | 0 | 0,0 |
| STP | 687 | 0,2 | 0 | 0,0 |
| MUUT | 280 | 0,1 | 0 | 0,0 |
| ITSP | 227 | 0,1 | 0 | 0,0 |
| SKS | 224 | 0,1 | 0 | 0,0 |
| KTP | 150 | 0,0 | 0 | 0,0 |

### District-by-district Roinila–d'Hondt method

| Party | Votes | Votes, % | Seats | Seats, % |
|---|---|---|---|---|
| KOK | 94 581 | 30,0 | 7 | 33,3 |
| SDP | 67 122 | 21,3 | 4 | 19,0 |
| VIHR | 63 440 | 20,1 | 6 | 28,6 |
| KESK | 21 703 | 6,9 | 1 | 4,8 |
| VAS | 21 366 | 6,8 | 2 | 9,5 |
| RKP | 18 894 | 6,0 | 1 | 4,8 |
| PS | 9 188 | 2,9 | 0 | 0,0 |
| KD | 7 903 | 2,5 | 0 | 0,0 |
| SKP | 4 495 | 1,4 | 0 | 0,0 |
| SSP | 2 355 | 0,7 | 0 | 0,0 |
| LIB | 1 416 | 0,4 | 0 | 0,0 |
| KÖY | 893 | 0,3 | 0 | 0,0 |
| STP | 687 | 0,2 | 0 | 0,0 |
| MUUT | 280 | 0,1 | 0 | 0,0 |
| ITSP | 227 | 0,1 | 0 | 0,0 |
| SKS | 224 | 0,1 | 0 | 0,0 |
| KTP | 150 | 0,0 | 0 | 0,0 |

### Direct-distribution Roinila–d'Hondt method

| Party | Votes | Votes, % | Seats | Seats, % |
|---|---|---|---|---|
| KOK | 94 581 | 30,0 | 6 | 28,6 |
| SDP | 67 122 | 21,3 | 4 | 19,0 |
| VIHR | 63 440 | 20,1 | 7 | 33,3 |
| KESK | 21 703 | 6,9 | 1 | 4,8 |
| VAS | 21 366 | 6,8 | 2 | 9,5 |
| RKP | 18 894 | 6,0 | 1 | 4,8 |
| PS | 9 188 | 2,9 | 0 | 0,0 |
| KD | 7 903 | 2,5 | 0 | 0,0 |
| SKP | 4 495 | 1,4 | 0 | 0,0 |
| SSP | 2 355 | 0,7 | 0 | 0,0 |
| LIB | 1 416 | 0,4 | 0 | 0,0 |
| KÖY | 893 | 0,3 | 0 | 0,0 |
| STP | 687 | 0,2 | 0 | 0,0 |
| MUUT | 280 | 0,1 | 0 | 0,0 |
| ITSP | 227 | 0,1 | 0 | 0,0 |
| SKS | 224 | 0,1 | 0 | 0,0 |
| KTP | 150 | 0,0 | 0 | 0,0 |

### D'Hondt & Hare–Niemayer method

| Party | Votes | Votes, % | Seats | Seats, % |
|---|---|---|---|---|
| KOK | 94 581 | 30,0 | 7 | 33,3 |
| SDP | 67 122 | 21,3 | 5 | 23,8 |
| VIHR | 63 440 | 20,1 | 5 | 23,8 |
| KESK | 21 703 | 6,9 | 1 | 4,8 |
| VAS | 21 366 | 6,8 | 1 | 4,8 |
| RKP | 18 894 | 6,0 | 1 | 4,8 |
| PS | 9 188 | 2,9 | 1 | 4,8 |
| KD | 7 903 | 2,5 | 0 | 0,0 |
| SKP | 4 495 | 1,4 | 0 | 0,0 |
| SSP | 2 355 | 0,7 | 0 | 0,0 |
| LIB | 1 416 | 0,4 | 0 | 0,0 |
| KÖY | 893 | 0,3 | 0 | 0,0 |
| STP | 687 | 0,2 | 0 | 0,0 |
| MUUT | 280 | 0,1 | 0 | 0,0 |
| ITSP | 227 | 0,1 | 0 | 0,0 |
| SKS | 224 | 0,1 | 0 | 0,0 |
| KTP | 150 | 0,0 | 0 | 0,0 |

## Häme

### D'Hondt method

| Party | Votes | Votes, % | Seats | Seats, % |
|---|---|---|---|---|
| SDP | 52 902 | 28,0 | 4 | 28,6 |
| KOK | 46 708 | 24,7 | 4 | 28,6 |
| KESK | 38 383 | 20,3 | 3 | 21,4 |
| VAS | 15 745 | 8,3 | 1 | 7,1 |
| KD | 14 576 | 7,7 | 1 | 7,1 |
| VIHR | 11 628 | 6,1 | 1 | 7,1 |
| PS | 4 182 | 2,2 | 0 | 0,0 |
| SSP | 2 723 | 1,4 | 0 | 0,0 |
| SKP | 1 185 | 0,6 | 0 | 0,0 |
| ITSP | 215 | 0,1 | 0 | 0,0 |
| STP | 175 | 0,1 | 0 | 0,0 |
| LIB | 174 | 0,1 | 0 | 0,0 |
| SKS | 153 | 0,1 | 0 | 0,0 |
| MUUT | 145 | 0,1 | 0 | 0,0 |
| KTP | 124 | 0,1 | 0 | 0,0 |
| YVP | 95 | 0,1 | 0 | 0,0 |

### District-by-district Roinila–d'Hondt method

| Party | Votes | Votes, % | Seats | Seats, % |
|---|---|---|---|---|
| SDP | 52 902 | 28,0 | 5 | 35,7 |
| KOK | 46 708 | 24,7 | 5 | 35,7 |
| KESK | 38 383 | 20,3 | 1 | 7,1 |
| VAS | 15 745 | 8,3 | 1 | 7,1 |
| KD | 14 576 | 7,7 | 1 | 7,1 |
| VIHR | 11 628 | 6,1 | 1 | 7,1 |
| PS | 4 182 | 2,2 | 0 | 0,0 |
| SSP | 2 723 | 1,4 | 0 | 0,0 |
| SKP | 1 185 | 0,6 | 0 | 0,0 |
| ITSP | 215 | 0,1 | 0 | 0,0 |
| STP | 175 | 0,1 | 0 | 0,0 |
| LIB | 174 | 0,1 | 0 | 0,0 |
| SKS | 153 | 0,1 | 0 | 0,0 |
| MUUT | 145 | 0,1 | 0 | 0,0 |
| KTP | 124 | 0,1 | 0 | 0,0 |
| YVP | 95 | 0,1 | 0 | 0,0 |

### Direct-distribution Roinila–d'Hondt method

| Party | Votes | Votes, % | Seats | Seats, % |
|---|---|---|---|---|
| SDP | 52 902 | 28,0 | 5 | 35,7 |
| KOK | 46 708 | 24,7 | 5 | 35,7 |
| KESK | 38 383 | 20,3 | 1 | 7,1 |
| VAS | 15 745 | 8,3 | 1 | 7,1 |
| KD | 14 576 | 7,7 | 1 | 7,1 |
| VIHR | 11 628 | 6,1 | 1 | 7,1 |
| PS | 4 182 | 2,2 | 0 | 0,0 |
| SSP | 2 723 | 1,4 | 0 | 0,0 |
| SKP | 1 185 | 0,6 | 0 | 0,0 |
| ITSP | 215 | 0,1 | 0 | 0,0 |
| STP | 175 | 0,1 | 0 | 0,0 |
| LIB | 174 | 0,1 | 0 | 0,0 |
| SKS | 153 | 0,1 | 0 | 0,0 |
| MUUT | 145 | 0,1 | 0 | 0,0 |
| KTP | 124 | 0,1 | 0 | 0,0 |
| YVP | 95 | 0,1 | 0 | 0,0 |

### D'Hondt & Hare–Niemayer method

| Party | Votes | Votes, % | Seats | Seats, % |
|---|---|---|---|---|
| SDP | 52 902 | 28,0 | 4 | 28,6 |
| KOK | 46 708 | 24,7 | 4 | 28,6 |
| KESK | 38 383 | 20,3 | 3 | 21,4 |
| VAS | 15 745 | 8,3 | 1 | 7,1 |
| KD | 14 576 | 7,7 | 1 | 7,1 |
| VIHR | 11 628 | 6,1 | 1 | 7,1 |
| PS | 4 182 | 2,2 | 0 | 0,0 |
| SSP | 2 723 | 1,4 | 0 | 0,0 |
| SKP | 1 185 | 0,6 | 0 | 0,0 |
| ITSP | 215 | 0,1 | 0 | 0,0 |
| STP | 175 | 0,1 | 0 | 0,0 |
| LIB | 174 | 0,1 | 0 | 0,0 |
| SKS | 153 | 0,1 | 0 | 0,0 |
| MUUT | 145 | 0,1 | 0 | 0,0 |
| KTP | 124 | 0,1 | 0 | 0,0 |
| YVP | 95 | 0,1 | 0 | 0,0 |

## Keski-Suomi

### D'Hondt method

| Party | Votes | Votes, % | Seats | Seats, % |
|---|---|---|---|---|
| KESK | 47 058 | 33,2 | 4 | 40,0 |
| SDP | 34 710 | 24,5 | 3 | 30,0 |
| KOK | 21 008 | 14,8 | 1 | 10,0 |
| KD | 11 142 | 7,9 | 1 | 10,0 |
| VAS | 10 561 | 7,4 | 1 | 10,0 |
| VIHR | 9 859 | 7,0 | 0 | 0,0 |
| PS | 3 616 | 2,6 | 0 | 0,0 |
| SKP | 2 368 | 1,7 | 0 | 0,0 |
| SSP | 913 | 0,6 | 0 | 0,0 |
| ITSP | 284 | 0,2 | 0 | 0,0 |
| LIB | 142 | 0,1 | 0 | 0,0 |
| KTP | 97 | 0,1 | 0 | 0,0 |
| STP | 45 | 0,0 | 0 | 0,0 |

### District-by-district Roinila–d'Hondt method

| Party | Votes | Votes, % | Seats | Seats, % |
|---|---|---|---|---|
| KESK | 47 058 | 33,2 | 4 | 40,0 |
| SDP | 34 710 | 24,5 | 3 | 30,0 |
| KOK | 21 008 | 14,8 | 1 | 10,0 |
| KD | 11 142 | 7,9 | 1 | 10,0 |
| VAS | 10 561 | 7,4 | 1 | 10,0 |
| VIHR | 9 859 | 7,0 | 0 | 0,0 |
| PS | 3 616 | 2,6 | 0 | 0,0 |
| SKP | 2 368 | 1,7 | 0 | 0,0 |
| SSP | 913 | 0,6 | 0 | 0,0 |
| ITSP | 284 | 0,2 | 0 | 0,0 |
| LIB | 142 | 0,1 | 0 | 0,0 |
| KTP | 97 | 0,1 | 0 | 0,0 |
| STP | 45 | 0,0 | 0 | 0,0 |

### Direct-distribution Roinila–d'Hondt method

| Party | Votes | Votes, % | Seats | Seats, % |
|---|---|---|---|---|
| KESK | 47 058 | 33,2 | 4 | 40,0 |
| SDP | 34 710 | 24,5 | 3 | 30,0 |
| KOK | 21 008 | 14,8 | 1 | 10,0 |
| KD | 11 142 | 7,9 | 1 | 10,0 |
| VAS | 10 561 | 7,4 | 1 | 10,0 |
| VIHR | 9 859 | 7,0 | 0 | 0,0 |
| PS | 3 616 | 2,6 | 0 | 0,0 |
| SKP | 2 368 | 1,7 | 0 | 0,0 |
| SSP | 913 | 0,6 | 0 | 0,0 |
| ITSP | 284 | 0,2 | 0 | 0,0 |
| LIB | 142 | 0,1 | 0 | 0,0 |
| KTP | 97 | 0,1 | 0 | 0,0 |
| STP | 45 | 0,0 | 0 | 0,0 |

### D'Hondt & Hare–Niemayer method

| Party | Votes | Votes, % | Seats | Seats, % |
|---|---|---|---|---|
| KESK | 47 058 | 33,2 | 3 | 30,0 |
| SDP | 34 710 | 24,5 | 3 | 30,0 |
| KOK | 21 008 | 14,8 | 1 | 10,0 |
| KD | 11 142 | 7,9 | 1 | 10,0 |
| VAS | 10 561 | 7,4 | 1 | 10,0 |
| VIHR | 9 859 | 7,0 | 1 | 10,0 |
| PS | 3 616 | 2,6 | 0 | 0,0 |
| SKP | 2 368 | 1,7 | 0 | 0,0 |
| SSP | 913 | 0,6 | 0 | 0,0 |
| ITSP | 284 | 0,2 | 0 | 0,0 |
| LIB | 142 | 0,1 | 0 | 0,0 |
| KTP | 97 | 0,1 | 0 | 0,0 |
| STP | 45 | 0,0 | 0 | 0,0 |

## Kymi

### D’Hondt method

| Party | Votes | Votes, % | Seats | Seats, % |
|---|---|---|---|---|
| SDP | 46 556 | 28,0 | 4 | 33,3 |
| KESK | 39 698 | 23,9 | 3 | 25,0 |
| KOK | 39 192 | 23,6 | 3 | 25,0 |
| VAS | 11 727 | 7,0 | 1 | 8,3 |
| KD | 11 012 | 6,6 | 1 | 8,3 |
| PS | 8 899 | 5,3 | 0 | 0,0 |
| VIHR | 8 077 | 4,9 | 0 | 0,0 |
| SKP | 532 | 0,3 | 0 | 0,0 |
| ITSP | 372 | 0,2 | 0 | 0,0 |
| KTP | 96 | 0,1 | 0 | 0,0 |
| MUUT | 83 | 0,0 | 0 | 0,0 |
| STP | 72 | 0,0 | 0 | 0,0 |
| YVP | 69 | 0,0 | 0 | 0,0 |

### District-by-district Roinila–d’Hondt method

| Party | Votes | Votes, % | Seats | Seats, % |
|---|---|---|---|---|
| SDP | 46 556 | 28,0 | 4 | 33,3 |
| KESK | 39 698 | 23,9 | 3 | 25,0 |
| KOK | 39 192 | 23,6 | 4 | 33,3 |
| VAS | 11 727 | 7,0 | 1 | 8,3 |
| KD | 11 012 | 6,6 | 0 | 0,0 |
| PS | 8 899 | 5,3 | 0 | 0,0 |
| VIHR | 8 077 | 4,9 | 0 | 0,0 |
| SKP | 532 | 0,3 | 0 | 0,0 |
| ITSP | 372 | 0,2 | 0 | 0,0 |
| KTP | 96 | 0,1 | 0 | 0,0 |
| MUUT | 83 | 0,0 | 0 | 0,0 |
| STP | 72 | 0,0 | 0 | 0,0 |
| YVP | 69 | 0,0 | 0 | 0,0 |

### Direct-distribution Roinila–d’Hondt method

| Party | Votes | Votes, % | Seats | Seats, % |
|---|---|---|---|---|
| SDP | 46 556 | 28,0 | 4 | 33,3 |
| KESK | 39 698 | 23,9 | 2 | 16,7 |
| KOK | 39 192 | 23,6 | 5 | 41,7 |
| VAS | 11 727 | 7,0 | 1 | 8,3 |
| KD | 11 012 | 6,6 | 0 | 0,0 |
| PS | 8 899 | 5,3 | 0 | 0,0 |
| VIHR | 8 077 | 4,9 | 0 | 0,0 |
| SKP | 532 | 0,3 | 0 | 0,0 |
| ITSP | 372 | 0,2 | 0 | 0,0 |
| KTP | 96 | 0,1 | 0 | 0,0 |
| MUUT | 83 | 0,0 | 0 | 0,0 |
| STP | 72 | 0,0 | 0 | 0,0 |
| YVP | 69 | 0,0 | 0 | 0,0 |

### D’Hondt & Hare–Niemayer method

| Party | Votes | Votes, % | Seats | Seats, % |
|---|---|---|---|---|
| SDP | 46 556 | 28,0 | 3 | 25,0 |
| KESK | 39 698 | 23,9 | 3 | 25,0 |
| KOK | 39 192 | 23,6 | 3 | 25,0 |
| VAS | 11 727 | 7,0 | 1 | 8,3 |
| KD | 11 012 | 6,6 | 1 | 8,3 |
| PS | 8 899 | 5,3 | 1 | 8,3 |
| VIHR | 8 077 | 4,9 | 0 | 0,0 |
| SKP | 532 | 0,3 | 0 | 0,0 |
| ITSP | 372 | 0,2 | 0 | 0,0 |
| KTP | 96 | 0,1 | 0 | 0,0 |
| MUUT | 83 | 0,0 | 0 | 0,0 |
| STP | 72 | 0,0 | 0 | 0,0 |
| YVP | 69 | 0,0 | 0 | 0,0 |

## Lappi

### D’Hondt method

| Party | Votes | Votes, % | Seats | Seats, % |
|---|---|---|---|---|
| KESK | 41 771 | 43,2 | 3 | 42,9 |
| VAS | 22 353 | 23,1 | 2 | 28,6 |
| SDP | 14 595 | 15,1 | 1 | 14,3 |
| KOK | 11 525 | 11,9 | 1 | 14,3 |
| VIHR | 3 104 | 3,2 | 0 | 0,0 |
| PS | 1 732 | 1,8 | 0 | 0,0 |
| KD | 941 | 1,0 | 0 | 0,0 |
| KTP | 341 | 0,4 | 0 | 0,0 |
| SKP | 216 | 0,2 | 0 | 0,0 |
| KÖY | 149 | 0,2 | 0 | 0,0 |
| ITSP | 50 | 0,1 | 0 | 0,0 |
| STP | 18 | 0,0 | 0 | 0,0 |

### District-by-district Roinila–d’Hondt method

| Party | Votes | Votes, % | Seats | Seats, % |
|---|---|---|---|---|
| KESK | 41 771 | 43,2 | 2 | 28,6 |
| VAS | 22 353 | 23,1 | 2 | 28,6 |
| SDP | 14 595 | 15,1 | 2 | 28,6 |
| KOK | 11 525 | 11,9 | 1 | 14,3 |
| VIHR | 3 104 | 3,2 | 0 | 0,0 |
| PS | 1 732 | 1,8 | 0 | 0,0 |
| KD | 941 | 1,0 | 0 | 0,0 |
| KTP | 341 | 0,4 | 0 | 0,0 |
| SKP | 216 | 0,2 | 0 | 0,0 |
| KÖY | 149 | 0,2 | 0 | 0,0 |
| ITSP | 50 | 0,1 | 0 | 0,0 |
| STP | 18 | 0,0 | 0 | 0,0 |

### Direct-distribution Roinila–d’Hondt method

| Party | Votes | Votes, % | Seats | Seats, % |
|---|---|---|---|---|
| KESK | 41 771 | 43,2 | 2 | 28,6 |
| VAS | 22 353 | 23,1 | 2 | 28,6 |
| SDP | 14 595 | 15,1 | 2 | 28,6 |
| KOK | 11 525 | 11,9 | 1 | 14,3 |
| VIHR | 3 104 | 3,2 | 0 | 0,0 |
| PS | 1 732 | 1,8 | 0 | 0,0 |
| KD | 941 | 1,0 | 0 | 0,0 |
| KTP | 341 | 0,4 | 0 | 0,0 |
| SKP | 216 | 0,2 | 0 | 0,0 |
| KÖY | 149 | 0,2 | 0 | 0,0 |
| ITSP | 50 | 0,1 | 0 | 0,0 |
| STP | 18 | 0,0 | 0 | 0,0 |

### D’Hondt & Hare–Niemayer method

| Party | Votes | Votes, % | Seats | Seats, % |
|---|---|---|---|---|
| KESK | 41 771 | 43,2 | 3 | 42,9 |
| VAS | 22 353 | 23,1 | 2 | 28,6 |
| SDP | 14 595 | 15,1 | 1 | 14,3 |
| KOK | 11 525 | 11,9 | 1 | 14,3 |
| VIHR | 3 104 | 3,2 | 0 | 0,0 |
| PS | 1 732 | 1,8 | 0 | 0,0 |
| KD | 941 | 1,0 | 0 | 0,0 |
| KTP | 341 | 0,4 | 0 | 0,0 |
| SKP | 216 | 0,2 | 0 | 0,0 |
| KÖY | 149 | 0,2 | 0 | 0,0 |
| ITSP | 50 | 0,1 | 0 | 0,0 |
| STP | 18 | 0,0 | 0 | 0,0 |

## Oulu

### D’Hondt method

| Party | Votes | Votes, % | Seats | Seats, % |
|---|---|---|---|---|
| KESK | 98 813 | 43,1 | 9 | 50,0 |
| VAS | 36 987 | 16,1 | 3 | 16,7 |
| KOK | 31 987 | 14,0 | 3 | 16,7 |
| SDP | 29 295 | 12,8 | 2 | 11,1 |
| VIHR | 14 102 | 6,2 | 1 | 5,6 |
| PS | 7 986 | 3,5 | 0 | 0,0 |
| KD | 7 290 | 3,2 | 0 | 0,0 |
| ITSP | 1 295 | 0,6 | 0 | 0,0 |
| SKP | 545 | 0,2 | 0 | 0,0 |
| KÖY | 423 | 0,2 | 0 | 0,0 |
| KTP | 186 | 0,1 | 0 | 0,0 |
| SKS | 134 | 0,1 | 0 | 0,0 |
| STP | 87 | 0,0 | 0 | 0,0 |

### District-by-district Roinila–d’Hondt method

| Party | Votes | Votes, % | Seats | Seats, % |
|---|---|---|---|---|
| KESK | 98 813 | 43,1 | 10 | 55,6 |
| VAS | 36 987 | 16,1 | 4 | 22,2 |
| KOK | 31 987 | 14,0 | 1 | 5,6 |
| SDP | 29 295 | 12,8 | 0 | 0,0 |
| VIHR | 14 102 | 6,2 | 2 | 11,1 |
| PS | 7 986 | 3,5 | 0 | 0,0 |
| KD | 7 290 | 3,2 | 1 | 5,6 |
| ITSP | 1 295 | 0,6 | 0 | 0,0 |
| SKP | 545 | 0,2 | 0 | 0,0 |
| KÖY | 423 | 0,2 | 0 | 0,0 |
| KTP | 186 | 0,1 | 0 | 0,0 |
| SKS | 134 | 0,1 | 0 | 0,0 |
| STP | 87 | 0,0 | 0 | 0,0 |

### Direct-distribution Roinila–d’Hondt method

| Party | Votes | Votes, % | Seats | Seats, % |
|---|---|---|---|---|
| KESK | 98 813 | 43,1 | 10 | 55,6 |
| VAS | 36 987 | 16,1 | 4 | 22,2 |
| KOK | 31 987 | 14,0 | 2 | 11,1 |
| SDP | 29 295 | 12,8 | 0 | 0,0 |
| VIHR | 14 102 | 6,2 | 1 | 5,6 |
| PS | 7 986 | 3,5 | 0 | 0,0 |
| KD | 7 290 | 3,2 | 1 | 5,6 |
| ITSP | 1 295 | 0,6 | 0 | 0,0 |
| SKP | 545 | 0,2 | 0 | 0,0 |
| KÖY | 423 | 0,2 | 0 | 0,0 |
| KTP | 186 | 0,1 | 0 | 0,0 |
| SKS | 134 | 0,1 | 0 | 0,0 |
| STP | 87 | 0,0 | 0 | 0,0 |

### D’Hondt & Hare–Niemayer method

| Party | Votes | Votes, % | Seats | Seats, % |
|---|---|---|---|---|
| KESK | 98 813 | 43,1 | 8 | 44,4 |
| VAS | 36 987 | 16,1 | 3 | 16,7 |
| KOK | 31 987 | 14,0 | 2 | 11,1 |
| SDP | 29 295 | 12,8 | 2 | 11,1 |
| VIHR | 14 102 | 6,2 | 1 | 5,6 |
| PS | 7 986 | 3,5 | 1 | 5,6 |
| KD | 7 290 | 3,2 | 1 | 5,6 |
| ITSP | 1 295 | 0,6 | 0 | 0,0 |
| SKP | 545 | 0,2 | 0 | 0,0 |
| KÖY | 423 | 0,2 | 0 | 0,0 |
| KTP | 186 | 0,1 | 0 | 0,0 |
| SKS | 134 | 0,1 | 0 | 0,0 |
| STP | 87 | 0,0 | 0 | 0,0 |

## Pirkanmaa

### D'Hondt method

| Party | Votes | Votes, % | Seats | Seats, % |
|---|---|---|---|---|
| KOK | 63 399 | 25,1 | 5 | 27,8 |
| SDP | 60 160 | 23,8 | 5 | 27,8 |
| KESK | 41 126 | 16,3 | 3 | 16,7 |
| VAS | 24 304 | 9,6 | 2 | 11,1 |
| VIHR | 22 056 | 8,7 | 1 | 5,6 |
| KD | 15 681 | 6,2 | 1 | 5,6 |
| PS | 12 378 | 4,9 | 1 | 5,6 |
| SSP | 7 812 | 3,1 | 0 | 0,0 |
| SKP | 3 805 | 1,5 | 0 | 0,0 |
| LIB | 847 | 0,3 | 0 | 0,0 |
| ITSP | 305 | 0,1 | 0 | 0,0 |
| SIK | 279 | 0,1 | 0 | 0,0 |
| SKS | 144 | 0,1 | 0 | 0,0 |
| KTP | 87 | 0,0 | 0 | 0,0 |
| STP | 85 | 0,0 | 0 | 0,0 |

### District-by-district Roinila–d'Hondt method

| Party | Votes | Votes, % | Seats | Seats, % |
|---|---|---|---|---|
| KOK | 63 399 | 25,1 | 5 | 27,8 |
| SDP | 60 160 | 23,8 | 4 | 22,2 |
| KESK | 41 126 | 16,3 | 2 | 11,1 |
| VAS | 24 304 | 9,6 | 2 | 11,1 |
| VIHR | 22 056 | 8,7 | 2 | 11,1 |
| KD | 15 681 | 6,2 | 1 | 5,6 |
| PS | 12 378 | 4,9 | 2 | 11,1 |
| SSP | 7 812 | 3,1 | 0 | 0,0 |
| SKP | 3 805 | 1,5 | 0 | 0,0 |
| LIB | 847 | 0,3 | 0 | 0,0 |
| ITSP | 305 | 0,1 | 0 | 0,0 |
| SIK | 279 | 0,1 | 0 | 0,0 |
| SKS | 144 | 0,1 | 0 | 0,0 |
| KTP | 87 | 0,0 | 0 | 0,0 |
| STP | 85 | 0,0 | 0 | 0,0 |

### Direct-distribution Roinila–d'Hondt method

| Party | Votes | Votes, % | Seats | Seats, % |
|---|---|---|---|---|
| KOK | 63 399 | 25,1 | 5 | 27,8 |
| SDP | 60 160 | 23,8 | 3 | 16,7 |
| KESK | 41 126 | 16,3 | 3 | 16,7 |
| VAS | 24 304 | 9,6 | 2 | 11,1 |
| VIHR | 22 056 | 8,7 | 2 | 11,1 |
| KD | 15 681 | 6,2 | 1 | 5,6 |
| PS | 12 378 | 4,9 | 2 | 11,1 |
| SSP | 7 812 | 3,1 | 0 | 0,0 |
| SKP | 3 805 | 1,5 | 0 | 0,0 |
| LIB | 847 | 0,3 | 0 | 0,0 |
| ITSP | 305 | 0,1 | 0 | 0,0 |
| SIK | 279 | 0,1 | 0 | 0,0 |
| SKS | 144 | 0,1 | 0 | 0,0 |
| KTP | 87 | 0,0 | 0 | 0,0 |
| STP | 85 | 0,0 | 0 | 0,0 |

### D'Hondt & Hare–Niemayer method

| Party | Votes | Votes, % | Seats | Seats, % |
|---|---|---|---|---|
| KOK | 63 399 | 25,1 | 5 | 27,8 |
| SDP | 60 160 | 23,8 | 4 | 22,2 |
| KESK | 41 126 | 16,3 | 3 | 16,7 |
| VAS | 24 304 | 9,6 | 2 | 11,1 |
| VIHR | 22 056 | 8,7 | 2 | 11,1 |
| KD | 15 681 | 6,2 | 1 | 5,6 |
| PS | 12 378 | 4,9 | 1 | 5,6 |
| SSP | 7 812 | 3,1 | 0 | 0,0 |
| SKP | 3 805 | 1,5 | 0 | 0,0 |
| LIB | 847 | 0,3 | 0 | 0,0 |
| ITSP | 305 | 0,1 | 0 | 0,0 |
| SIK | 279 | 0,1 | 0 | 0,0 |
| SKS | 144 | 0,1 | 0 | 0,0 |
| KTP | 87 | 0,0 | 0 | 0,0 |
| STP | 85 | 0,0 | 0 | 0,0 |

## Pohjois-Karjala

### D'Hondt method

| Party | Votes | Votes, % | Seats | Seats, % |
|---|---|---|---|---|
| KESK | 30 391 | 35,7 | 3 | 50,0 |
| SDP | 26 942 | 31,6 | 2 | 33,3 |
| KOK | 10 041 | 11,8 | 1 | 16,7 |
| VIHR | 9 955 | 11,7 | 0 | 0,0 |
| KD | 2 574 | 3,0 | 0 | 0,0 |
| PS | 2 428 | 2,8 | 0 | 0,0 |
| VAS | 2 163 | 2,5 | 0 | 0,0 |
| SKP | 517 | 0,6 | 0 | 0,0 |
| ITSP | 159 | 0,2 | 0 | 0,0 |
| KTP | 40 | 0,0 | 0 | 0,0 |
| STP | 31 | 0,0 | 0 | 0,0 |

### District-by-district Roinila–d'Hondt method

| Party | Votes | Votes, % | Seats | Seats, % |
|---|---|---|---|---|
| KESK | 30 391 | 35,7 | 2 | 33,3 |
| SDP | 26 942 | 31,6 | 1 | 16,7 |
| KOK | 10 041 | 11,8 | 1 | 16,7 |
| VIHR | 9 955 | 11,7 | 1 | 16,7 |
| KD | 2 574 | 3,0 | 0 | 0,0 |
| PS | 2 428 | 2,8 | 1 | 16,7 |
| VAS | 2 163 | 2,5 | 0 | 0,0 |
| SKP | 517 | 0,6 | 0 | 0,0 |
| ITSP | 159 | 0,2 | 0 | 0,0 |
| KTP | 40 | 0,0 | 0 | 0,0 |
| STP | 31 | 0,0 | 0 | 0,0 |

### Direct-distribution Roinila–d'Hondt method

| Party | Votes | Votes, % | Seats | Seats, % |
|---|---|---|---|---|
| KESK | 30 391 | 35,7 | 2 | 33,3 |
| SDP | 26 942 | 31,6 | 1 | 16,7 |
| KOK | 10 041 | 11,8 | 1 | 16,7 |
| VIHR | 9 955 | 11,7 | 1 | 16,7 |
| KD | 2 574 | 3,0 | 0 | 0,0 |
| PS | 2 428 | 2,8 | 1 | 16,7 |
| VAS | 2 163 | 2,5 | 0 | 0,0 |
| SKP | 517 | 0,6 | 0 | 0,0 |
| ITSP | 159 | 0,2 | 0 | 0,0 |
| KTP | 40 | 0,0 | 0 | 0,0 |
| STP | 31 | 0,0 | 0 | 0,0 |

### D'Hondt & Hare–Niemayer method

| Party | Votes | Votes, % | Seats | Seats, % |
|---|---|---|---|---|
| KESK | 30 391 | 35,7 | 2 | 33,3 |
| SDP | 26 942 | 31,6 | 2 | 33,3 |
| KOK | 10 041 | 11,8 | 1 | 16,7 |
| VIHR | 9 955 | 11,7 | 1 | 16,7 |
| KD | 2 574 | 3,0 | 0 | 0,0 |
| PS | 2 428 | 2,8 | 0 | 0,0 |
| VAS | 2 163 | 2,5 | 0 | 0,0 |
| SKP | 517 | 0,6 | 0 | 0,0 |
| ITSP | 159 | 0,2 | 0 | 0,0 |
| KTP | 40 | 0,0 | 0 | 0,0 |
| STP | 31 | 0,0 | 0 | 0,0 |

## Pohjois-Savo

### D'Hondt method

| Party | Votes | Votes, % | Seats | Seats, % |
|---|---|---|---|---|
| KESK | 45 607 | 35,8 | 4 | 40,0 |
| SDP | 24 760 | 19,5 | 2 | 20,0 |
| KOK | 21 696 | 17,1 | 1 | 10,0 |
| VAS | 14 253 | 11,2 | 1 | 10,0 |
| KD | 10 316 | 8,1 | 1 | 10,0 |
| VIHR | 5 073 | 4,0 | 0 | 0,0 |
| PS | 4 334 | 3,4 | 1 | 10,0 |
| SKP | 624 | 0,5 | 0 | 0,0 |
| KÖY | 254 | 0,2 | 0 | 0,0 |
| SKS | 100 | 0,1 | 0 | 0,0 |
| STP | 90 | 0,1 | 0 | 0,0 |
| ITSP | 74 | 0,1 | 0 | 0,0 |
| KTP | 68 | 0,1 | 0 | 0,0 |

### District-by-district Roinila–d'Hondt method

| Party | Votes | Votes, % | Seats | Seats, % |
|---|---|---|---|---|
| KESK | 45 607 | 35,8 | 4 | 40,0 |
| SDP | 24 760 | 19,5 | 2 | 20,0 |
| KOK | 21 696 | 17,1 | 1 | 10,0 |
| VAS | 14 253 | 11,2 | 1 | 10,0 |
| KD | 10 316 | 8,1 | 1 | 10,0 |
| VIHR | 5 073 | 4,0 | 0 | 0,0 |
| PS | 4 334 | 3,4 | 1 | 10,0 |
| SKP | 624 | 0,5 | 0 | 0,0 |
| KÖY | 254 | 0,2 | 0 | 0,0 |
| SKS | 100 | 0,1 | 0 | 0,0 |
| STP | 90 | 0,1 | 0 | 0,0 |
| ITSP | 74 | 0,1 | 0 | 0,0 |
| KTP | 68 | 0,1 | 0 | 0,0 |

### Direct-distribution Roinila–d'Hondt method

| Party | Votes | Votes, % | Seats | Seats, % |
|---|---|---|---|---|
| KESK | 45 607 | 35,8 | 3 | 30,0 |
| SDP | 24 760 | 19,5 | 2 | 20,0 |
| KOK | 21 696 | 17,1 | 2 | 20,0 |
| VAS | 14 253 | 11,2 | 1 | 10,0 |
| KD | 10 316 | 8,1 | 1 | 10,0 |
| VIHR | 5 073 | 4,0 | 0 | 0,0 |
| PS | 4 334 | 3,4 | 1 | 10,0 |
| SKP | 624 | 0,5 | 0 | 0,0 |
| KÖY | 254 | 0,2 | 0 | 0,0 |
| SKS | 100 | 0,1 | 0 | 0,0 |
| STP | 90 | 0,1 | 0 | 0,0 |
| ITSP | 74 | 0,1 | 0 | 0,0 |
| KTP | 68 | 0,1 | 0 | 0,0 |

### D'Hondt & Hare–Niemayer method

| Party | Votes | Votes, % | Seats | Seats, % |
|---|---|---|---|---|
| KESK | 45 607 | 35,8 | 4 | 40,0 |
| SDP | 24 760 | 19,5 | 2 | 20,0 |
| KOK | 21 696 | 17,1 | 2 | 20,0 |
| VAS | 14 253 | 11,2 | 1 | 10,0 |
| KD | 10 316 | 8,1 | 1 | 10,0 |
| VIHR | 5 073 | 4,0 | 0 | 0,0 |
| PS | 4 334 | 3,4 | 0 | 0,0 |
| SKP | 624 | 0,5 | 0 | 0,0 |
| KÖY | 254 | 0,2 | 0 | 0,0 |
| SKS | 100 | 0,1 | 0 | 0,0 |
| STP | 90 | 0,1 | 0 | 0,0 |
| ITSP | 74 | 0,1 | 0 | 0,0 |
| KTP | 68 | 0,1 | 0 | 0,0 |

## Satakunta

### D'Hondt method

| Party | Votes | Votes, % | Seats | Seats, % |
|---|---|---|---|---|
| SDP | 36 232 | 29,5 | 3 | 33,3 |
| KESK | 30 377 | 24,7 | 3 | 33,3 |
| KOK | 26 395 | 21,5 | 2 | 22,2 |
| VAS | 14 815 | 12,0 | 1 | 11,1 |
| PS | 6 392 | 5,2 | 0 | 0,0 |
| VIHR | 4 292 | 3,5 | 0 | 0,0 |
| KD | 2 977 | 2,4 | 0 | 0,0 |
| SSP | 737 | 0,6 | 0 | 0,0 |
| SKP | 357 | 0,3 | 0 | 0,0 |
| ITSP | 210 | 0,2 | 0 | 0,0 |
| SKS | 84 | 0,1 | 0 | 0,0 |
| KTP | 61 | 0,0 | 0 | 0,0 |
| STP | 46 | 0,0 | 0 | 0,0 |

### District-by-district Roinila–d'Hondt method

| Party | Votes | Votes, % | Seats | Seats, % |
|---|---|---|---|---|
| SDP | 36 232 | 29,5 | 3 | 33,3 |
| KESK | 30 377 | 24,7 | 3 | 33,3 |
| KOK | 26 395 | 21,5 | 1 | 11,1 |
| VAS | 14 815 | 12,0 | 1 | 11,1 |
| PS | 6 392 | 5,2 | 1 | 11,1 |
| VIHR | 4 292 | 3,5 | 0 | 0,0 |
| KD | 2 977 | 2,4 | 0 | 0,0 |
| SSP | 737 | 0,6 | 0 | 0,0 |
| SKP | 357 | 0,3 | 0 | 0,0 |
| ITSP | 210 | 0,2 | 0 | 0,0 |
| SKS | 84 | 0,1 | 0 | 0,0 |
| KTP | 61 | 0,0 | 0 | 0,0 |
| STP | 46 | 0,0 | 0 | 0,0 |

### Direct-distribution Roinila–d'Hondt method

| Party | Votes | Votes, % | Seats | Seats, % |
|---|---|---|---|---|
| SDP | 36 232 | 29,5 | 3 | 33,3 |
| KESK | 30 377 | 24,7 | 3 | 33,3 |
| KOK | 26 395 | 21,5 | 1 | 11,1 |
| VAS | 14 815 | 12,0 | 1 | 11,1 |
| PS | 6 392 | 5,2 | 1 | 11,1 |
| VIHR | 4 292 | 3,5 | 0 | 0,0 |
| KD | 2 977 | 2,4 | 0 | 0,0 |
| SSP | 737 | 0,6 | 0 | 0,0 |
| SKP | 357 | 0,3 | 0 | 0,0 |
| ITSP | 210 | 0,2 | 0 | 0,0 |
| SKS | 84 | 0,1 | 0 | 0,0 |
| KTP | 61 | 0,0 | 0 | 0,0 |
| STP | 46 | 0,0 | 0 | 0,0 |

### D'Hondt & Hare–Niemayer method

| Party | Votes | Votes, % | Seats | Seats, % |
|---|---|---|---|---|
| SDP | 36 232 | 29,5 | 3 | 33,3 |
| KESK | 30 377 | 24,7 | 2 | 22,2 |
| KOK | 26 395 | 21,5 | 2 | 22,2 |
| VAS | 14 815 | 12,0 | 1 | 11,1 |
| PS | 6 392 | 5,2 | 1 | 11,1 |
| VIHR | 4 292 | 3,5 | 0 | 0,0 |
| KD | 2 977 | 2,4 | 0 | 0,0 |
| SSP | 737 | 0,6 | 0 | 0,0 |
| SKP | 357 | 0,3 | 0 | 0,0 |
| ITSP | 210 | 0,2 | 0 | 0,0 |
| SKS | 84 | 0,1 | 0 | 0,0 |
| KTP | 61 | 0,0 | 0 | 0,0 |
| STP | 46 | 0,0 | 0 | 0,0 |

## Uusimaa

### D'Hondt method

| Party | Votes | Votes, % | Seats | Seats, % |
|---|---|---|---|---|
| KOK | 133 885 | 28,7 | 11 | 32,4 |
| SDP | 94 215 | 20,2 | 7 | 20,6 |
| KESK | 57 609 | 12,4 | 4 | 11,8 |
| VIHR | 50 718 | 10,9 | 4 | 11,8 |
| RKP | 44 418 | 9,5 | 3 | 8,8 |
| VAS | 31 324 | 6,7 | 2 | 5,9 |
| PS | 27 846 | 6,0 | 2 | 5,9 |
| KD | 19 157 | 4,1 | 1 | 2,9 |
| SKP | 2 103 | 0,5 | 0 | 0,0 |
| SSP | 1 066 | 0,2 | 0 | 0,0 |
| KÖY | 802 | 0,2 | 0 | 0,0 |
| ITSP | 747 | 0,2 | 0 | 0,0 |
| KTP | 528 | 0,1 | 0 | 0,0 |
| MUUT | 413 | 0,1 | 0 | 0,0 |
| SIK | 369 | 0,1 | 0 | 0,0 |
| LIB | 295 | 0,1 | 0 | 0,0 |
| STP | 239 | 0,1 | 0 | 0,0 |

### District-by-district Roinila–d'Hondt method

| Party | Votes | Votes, % | Seats | Seats, % |
|---|---|---|---|---|
| KOK | 133 885 | 28,7 | 10 | 29,4 |
| SDP | 94 215 | 20,2 | 8 | 23,5 |
| KESK | 57 609 | 12,4 | 2 | 5,9 |
| VIHR | 50 718 | 10,9 | 2 | 5,9 |
| RKP | 44 418 | 9,5 | 5 | 14,7 |
| VAS | 31 324 | 6,7 | 2 | 5,9 |
| PS | 27 846 | 6,0 | 2 | 5,9 |
| KD | 19 157 | 4,1 | 3 | 8,8 |
| SKP | 2 103 | 0,5 | 0 | 0,0 |
| SSP | 1 066 | 0,2 | 0 | 0,0 |
| KÖY | 802 | 0,2 | 0 | 0,0 |
| ITSP | 747 | 0,2 | 0 | 0,0 |
| KTP | 528 | 0,1 | 0 | 0,0 |
| MUUT | 413 | 0,1 | 0 | 0,0 |
| SIK | 369 | 0,1 | 0 | 0,0 |
| LIB | 295 | 0,1 | 0 | 0,0 |
| STP | 239 | 0,1 | 0 | 0,0 |

### Direct-distribution Roinila–d'Hondt method

| Party | Votes | Votes, % | Seats | Seats, % |
|---|---|---|---|---|
| KOK | 133 885 | 28,7 | 9 | 26,5 |
| SDP | 94 215 | 20,2 | 9 | 26,5 |
| KESK | 57 609 | 12,4 | 3 | 8,8 |
| VIHR | 50 718 | 10,9 | 2 | 5,9 |
| RKP | 44 418 | 9,5 | 4 | 11,8 |
| VAS | 31 324 | 6,7 | 2 | 5,9 |
| PS | 27 846 | 6,0 | 2 | 5,9 |
| KD | 19 157 | 4,1 | 3 | 8,8 |
| SKP | 2 103 | 0,5 | 0 | 0,0 |
| SSP | 1 066 | 0,2 | 0 | 0,0 |
| KÖY | 802 | 0,2 | 0 | 0,0 |
| ITSP | 747 | 0,2 | 0 | 0,0 |
| KTP | 528 | 0,1 | 0 | 0,0 |
| MUUT | 413 | 0,1 | 0 | 0,0 |
| SIK | 369 | 0,1 | 0 | 0,0 |
| LIB | 295 | 0,1 | 0 | 0,0 |
| STP | 239 | 0,1 | 0 | 0,0 |

### D'Hondt & Hare–Niemayer method

| Party | Votes | Votes, % | Seats | Seats, % |
|---|---|---|---|---|
| KOK | 133 885 | 28,7 | 10 | 29,4 |
| SDP | 94 215 | 20,2 | 7 | 20,6 |
| KESK | 57 609 | 12,4 | 4 | 11,8 |
| VIHR | 50 718 | 10,9 | 4 | 11,8 |
| RKP | 44 418 | 9,5 | 3 | 8,8 |
| VAS | 31 324 | 6,7 | 2 | 5,9 |
| PS | 27 846 | 6,0 | 2 | 5,9 |
| KD | 19 157 | 4,1 | 2 | 5,9 |
| SKP | 2 103 | 0,5 | 0 | 0,0 |
| SSP | 1 066 | 0,2 | 0 | 0,0 |
| KÖY | 802 | 0,2 | 0 | 0,0 |
| ITSP | 747 | 0,2 | 0 | 0,0 |
| KTP | 528 | 0,1 | 0 | 0,0 |
| MUUT | 413 | 0,1 | 0 | 0,0 |
| SIK | 369 | 0,1 | 0 | 0,0 |
| LIB | 295 | 0,1 | 0 | 0,0 |
| STP | 239 | 0,1 | 0 | 0,0 |

## Vaasa

### D'Hondt method

| Party | Votes | Votes, % | Seats | Seats, % |
|---|---|---|---|---|
| KESK | 78 523 | 32,5 | 6 | 35,3 |
| RKP | 49 839 | 20,6 | 4 | 23,5 |
| KOK | 34 101 | 14,1 | 3 | 17,6 |
| SDP | 30 720 | 12,7 | 2 | 11,8 |
| KD | 16 919 | 7,0 | 1 | 5,9 |
| PS | 14 454 | 6,0 | 1 | 5,9 |
| VAS | 11 342 | 4,7 | 0 | 0,0 |
| VIHR | 3 543 | 1,5 | 0 | 0,0 |
| ITSP | 1 192 | 0,5 | 0 | 0,0 |
| SSP | 851 | 0,4 | 0 | 0,0 |
| SKP | 307 | 0,1 | 0 | 0,0 |
| SIK | 61 | 0,0 | 0 | 0,0 |
| KTP | 54 | 0,0 | 0 | 0,0 |
| STP | 45 | 0,0 | 0 | 0,0 |

### District-by-district Roinila–d'Hondt method

| Party | Votes | Votes, % | Seats | Seats, % |
|---|---|---|---|---|
| KESK | 78 523 | 32,5 | 7 | 41,2 |
| RKP | 49 839 | 20,6 | 3 | 17,6 |
| KOK | 34 101 | 14,1 | 2 | 11,8 |
| SDP | 30 720 | 12,7 | 3 | 17,6 |
| KD | 16 919 | 7,0 | 1 | 5,9 |
| PS | 14 454 | 6,0 | 1 | 5,9 |
| VAS | 11 342 | 4,7 | 0 | 0,0 |
| VIHR | 3 543 | 1,5 | 0 | 0,0 |
| ITSP | 1 192 | 0,5 | 0 | 0,0 |
| SSP | 851 | 0,4 | 0 | 0,0 |
| SKP | 307 | 0,1 | 0 | 0,0 |
| SIK | 61 | 0,0 | 0 | 0,0 |
| KTP | 54 | 0,0 | 0 | 0,0 |
| STP | 45 | 0,0 | 0 | 0,0 |

### Direct-distribution Roinila–d'Hondt method

| Party | Votes | Votes, % | Seats | Seats, % |
|---|---|---|---|---|
| KESK | 78 523 | 32,5 | 7 | 41,2 |
| RKP | 49 839 | 20,6 | 3 | 17,6 |
| KOK | 34 101 | 14,1 | 2 | 11,8 |
| SDP | 30 720 | 12,7 | 3 | 17,6 |
| KD | 16 919 | 7,0 | 1 | 5,9 |
| PS | 14 454 | 6,0 | 1 | 5,9 |
| VAS | 11 342 | 4,7 | 0 | 0,0 |
| VIHR | 3 543 | 1,5 | 0 | 0,0 |
| ITSP | 1 192 | 0,5 | 0 | 0,0 |
| SSP | 851 | 0,4 | 0 | 0,0 |
| SKP | 307 | 0,1 | 0 | 0,0 |
| SIK | 61 | 0,0 | 0 | 0,0 |
| KTP | 54 | 0,0 | 0 | 0,0 |
| STP | 45 | 0,0 | 0 | 0,0 |

### D'Hondt & Hare–Niemayer method

| Party | Votes | Votes, % | Seats | Seats, % |
|---|---|---|---|---|
| KESK | 78 523 | 32,5 | 6 | 35,3 |
| RKP | 49 839 | 20,6 | 4 | 23,5 |
| KOK | 34 101 | 14,1 | 2 | 11,8 |
| SDP | 30 720 | 12,7 | 2 | 11,8 |
| KD | 16 919 | 7,0 | 1 | 5,9 |
| PS | 14 454 | 6,0 | 1 | 5,9 |
| VAS | 11 342 | 4,7 | 1 | 5,9 |
| VIHR | 3 543 | 1,5 | 0 | 0,0 |
| ITSP | 1 192 | 0,5 | 0 | 0,0 |
| SSP | 851 | 0,4 | 0 | 0,0 |
| SKP | 307 | 0,1 | 0 | 0,0 |
| SIK | 61 | 0,0 | 0 | 0,0 |
| KTP | 54 | 0,0 | 0 | 0,0 |
| STP | 45 | 0,0 | 0 | 0,0 |

## Varsinais-Suomi

### D’Hondt method

| Party | Votes | Votes, % | Seats | Seats, % |
|---|---|---|---|---|
| KOK | 66 793 | 27,4 | 5 | 29,4 |
| SDP | 53 281 | 21,8 | 4 | 23,5 |
| KESK | 38 610 | 15,8 | 3 | 17,6 |
| VAS | 25 937 | 10,6 | 2 | 11,8 |
| VIHR | 22 868 | 9,4 | 2 | 11,8 |
| RKP | 13 369 | 5,5 | 1 | 5,9 |
| KD | 11 377 | 4,7 | 0 | 0,0 |
| PS | 6 168 | 2,5 | 0 | 0,0 |
| SKS | 3 074 | 1,3 | 0 | 0,0 |
| SKP | 916 | 0,4 | 0 | 0,0 |
| MUUT | 499 | 0,2 | 0 | 0,0 |
| LIB | 297 | 0,1 | 0 | 0,0 |
| ITSP | 262 | 0,1 | 0 | 0,0 |
| SSP | 258 | 0,1 | 0 | 0,0 |
| KTP | 135 | 0,1 | 0 | 0,0 |
| SIK | 112 | 0,0 | 0 | 0,0 |
| STP | 109 | 0,0 | 0 | 0,0 |

### District-by-district Roinila–d’Hondt method

| Party | Votes | Votes, % | Seats | Seats, % |
|---|---|---|---|---|
| KOK | 66 793 | 27,4 | 6 | 35,3 |
| SDP | 53 281 | 21,8 | 3 | 17,6 |
| KESK | 38 610 | 15,8 | 3 | 17,6 |
| VAS | 25 937 | 10,6 | 1 | 5,9 |
| VIHR | 22 868 | 9,4 | 2 | 11,8 |
| RKP | 13 369 | 5,5 | 1 | 5,9 |
| KD | 11 377 | 4,7 | 1 | 5,9 |
| PS | 6 168 | 2,5 | 0 | 0,0 |
| SKS | 3 074 | 1,3 | 0 | 0,0 |
| SKP | 916 | 0,4 | 0 | 0,0 |
| MUUT | 499 | 0,2 | 0 | 0,0 |
| LIB | 297 | 0,1 | 0 | 0,0 |
| ITSP | 262 | 0,1 | 0 | 0,0 |
| SSP | 258 | 0,1 | 0 | 0,0 |
| KTP | 135 | 0,1 | 0 | 0,0 |
| SIK | 112 | 0,0 | 0 | 0,0 |
| STP | 109 | 0,0 | 0 | 0,0 |

### Direct-distribution Roinila–d’Hondt method

| Party | Votes | Votes, % | Seats | Seats, % |
|---|---|---|---|---|
| KOK | 66 793 | 27,4 | 6 | 35,3 |
| SDP | 53 281 | 21,8 | 3 | 17,6 |
| KESK | 38 610 | 15,8 | 3 | 17,6 |
| VAS | 25 937 | 10,6 | 1 | 5,9 |
| VIHR | 22 868 | 9,4 | 2 | 11,8 |
| RKP | 13 369 | 5,5 | 1 | 5,9 |
| KD | 11 377 | 4,7 | 1 | 5,9 |
| PS | 6 168 | 2,5 | 0 | 0,0 |
| SKS | 3 074 | 1,3 | 0 | 0,0 |
| SKP | 916 | 0,4 | 0 | 0,0 |
| MUUT | 499 | 0,2 | 0 | 0,0 |
| LIB | 297 | 0,1 | 0 | 0,0 |
| ITSP | 262 | 0,1 | 0 | 0,0 |
| SSP | 258 | 0,1 | 0 | 0,0 |
| KTP | 135 | 0,1 | 0 | 0,0 |
| SIK | 112 | 0,0 | 0 | 0,0 |
| STP | 109 | 0,0 | 0 | 0,0 |

### D’Hondt & Hare–Niemayer method

| Party | Votes | Votes, % | Seats | Seats, % |
|---|---|---|---|---|
| KOK | 66 793 | 27,4 | 5 | 29,4 |
| SDP | 53 281 | 21,8 | 4 | 23,5 |
| KESK | 38 610 | 15,8 | 3 | 17,6 |
| VAS | 25 937 | 10,6 | 2 | 11,8 |
| VIHR | 22 868 | 9,4 | 1 | 5,9 |
| RKP | 13 369 | 5,5 | 1 | 5,9 |
| KD | 11 377 | 4,7 | 1 | 5,9 |
| PS | 6 168 | 2,5 | 0 | 0,0 |
| SKS | 3 074 | 1,3 | 0 | 0,0 |
| SKP | 916 | 0,4 | 0 | 0,0 |
| MUUT | 499 | 0,2 | 0 | 0,0 |
| LIB | 297 | 0,1 | 0 | 0,0 |
| ITSP | 262 | 0,1 | 0 | 0,0 |
| SSP | 258 | 0,1 | 0 | 0,0 |
| KTP | 135 | 0,1 | 0 | 0,0 |
| SIK | 112 | 0,0 | 0 | 0,0 |
| STP | 109 | 0,0 | 0 | 0,0 |

## Appendix C. Indices of disproportionality[104]

### Rae index

Rae's index measures (dis)proportionality by calculating the average deviation between the seat shares and vote shares of parties, thus telling us how many seats too many or too few each party gained on average. The index is calculated with the formula:

$I = \frac{\sum |v_i - s_i|}{i}$, where $v_i$ is a party's vote share, $s_i$ its seat share and $i$ the number of parties.

**Example:** If $I$=2, then on average the seat share of each party is two percentage points higher or lower than their vote share.

### Loosemore–Hanby index

The Loosemore–Hanby index measures the aggregate overrepresentation of all those parties that gained a larger share of seats than they did of votes. In other words it gives us the percentage of seats that were allocated to parties above their proportionate share. The index is calculated with the formula:

$D = \frac{\sum |v_i - s_i|}{2}$, where $v_i$ is a party's vote share and $s_i$ its share of seats.

**Example:** If the Loosemore–Hanby index gives the value $D$=10, then ten percent of all seats are won by parties whose share of seats then exceeds their share of votes. Thus it can be interpreted as telling us that ten percent of all seats went to the 'wrong' parties.

### Gallagher index

The Gallagher least squares index (*LSq*) gives a numerical value ranging from 0 to 100, with a higher number representing greater deviation from perfect proportionality. This weighed index reveals the degree of politically meaningful disproportionality better than the other indices as it downplays the significance of many small, and often politically insignificant, deviations. The index is calculated with the formula:

$LSq = \sqrt{\frac{\sum (v_i - s_i)^2}{2}}$, where $v_i$ is a party's vote share and $s_i$ its share of seats.

[104] Lijphart 1994, pp. 58–62.

## Appendix D. Party names and abbreviations

| Abbreviation | Party name in Finnish | Party name in English |
|---|---|---|
| KESK | Suomen Keskusta | The Centre Party |
| KOK | Kansallinen Kokoomus | The National Coalition Party |
| SDP | Suomen Sosialidemokraattinen Puolue | The Social Democratic Party of Finland |
| VAS | Vasemmistoliitto | The Left Alliance |
| VIHR | Vihreä liitto | The Greens of Finland |
| KD | Suomen Kristillisdemokraatit | The Finnish Christian Democrats |
| RKP | Ruotsalainen kansanpuolue | The Swedish People's Party of Finland |
| PS | Perussuomalaiset | The Finns Party |
| SKP | Suomen Kommunistinen Puolue | Communist Party of Finland |
| SSP | Suomen Senioripuolue | Senior Citizens' Party of Finland |
| ITSP | Itsenäisyyspuolue | Independence Party |
| SKS | Suomen Kansan Sinivalkoiset | *The Blue-Whites of the Finnish People** |
| LIB | Liberaalit | Liberals |
| KÖY | Köyhien Asialla | For the Poor Party |
| KTP | Kommunistinen Työväenpuolue | Communist Workers' Party (Finland) |
| STP | Suomen Työväenpuolue | Workers' Party of Finland |
| SIK | Suomen Isänmaallinen Kansanliike | *The Patriotic People's Movement of Finland** |
| YVP | Yhteisvastuu puolue | *Common Responsibility Party** |
| MUUT | *Muut ryhmät* | *Other groups* |

* Party names without an official English translation. The translations presented are mine.